Natural Environment Study

SR-241/SR-91 Express Lanes Connector Project

12-ORA-241 PM 36.1/39.1

12-ORA-91 PM 14.7/18.9

08-RIV-91 PM 0.0/1.5

EA No. 12-0K9700

Project No. 1200020097

December 2015

Caltrans

CALIFORNIA DEPARTMENT OF TRANSPORTATION

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EA No. 12-0K9700

Project No. 1200020097

STATE OF CALIFORNIA
Department of Transportation
District 12

Prepared By: _____ Date: December 21, 2015

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Summary

The California Department of Transportation (Caltrans) District 12, in cooperation with the Foothill/Eastern Transportation Corridor Agency (F/ETCA) proposes the State Route 241/State Route 91 (SR-241/SR-91) Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91 (SR-91 Express Lanes). SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The SR-91 Express Lanes is a two-lane tolled facility located within the median of SR-91, from State Route 55 (SR-55), to the Orange/Riverside County line (east of the SR-241 interchange). The existing interchange connects all lanes of the northbound and southbound SR-241 to non-tolled, general purpose lanes of eastbound and westbound SR-91. There is currently no direct connection between the SR-241 and the SR-91 Express Lanes.

The Proposed Project, located at the junction of SR-241 and SR-91 and in the cities of Anaheim, Yorba Linda and Corona and counties of Orange and Riverside, would provide improved access between SR-241 and SR-91 and is proposed to be a tolled facility. The proposed median-to-median connector project encompasses 12-ORA-241 (PM 36.1/39.1), 12-ORA-91 (PM 14.7/18.9), and 08 RIV-91 (PM 0.0/1.5) for a length of approximately 8.7 mi.

Improvements for the connector are limited to 5.9 mi in the cities of Anaheim and Yorba Linda from south of the Windy Ridge Wildlife Undercrossing on SR-241 to Coal Canyon Undercrossing on SR-91. The remaining 2.8 mi of the Proposed Project is limited to FasTrak signage improvements (advance signage) in the cities of Anaheim (1.2 mi total), Yorba Linda (0.1 mi) and Corona (1.5 mi), with exact placement pending the Final Design process. The Proposed Project is mostly within existing Caltrans right-of-way, with one partial acquisition adjacent to eastbound SR-91. Construction access and staging areas would occur within existing Caltrans right-of-way.

The proposed median-to-median connector is a later phase of the Eastern Transportation Corridor (ETC) project, previously approved in 1994. It was originally evaluated as a SR-241/SR-91 high-occupancy vehicle (HOV) direct connector in the 1991 ETC Draft Environmental Impact Report/ Environmental Impact Statement (Draft EIR/EIS), 1992 ETC Final EIR, and the 1994 ETC Final EIS (all of which studied a broader project area with improvements on SR-133, SR-241, and SR-261).

The Systems Management Concept (SMC) for the ETC projected that each Build Alternative would be staged, incorporating general purpose traffic and eventually HOV lanes, to meet the forecasted demand. Under the SMC, ETC construction would be completed in one stage, with three or more phases.

To implement this later phase of the ETC, a Draft Supplemental EIR/EIS is being prepared to focus on the eastern portion of the original project and to address changes to environmental conditions and regulatory requirements. Various alternatives were studied in the 1991 ETC Draft EIR/EIS, 1992 ETC Final EIR, and the 1994 ETC Final EIS; however, the Draft Supplemental EIR/EIS will include a No Build and only one Build Alternative for the median-to-median connector for the following reasons:

- There are limited locations for a median-to-median connector between SR-241 and SR-91;
- The median-to-median connector is a component of a previously approved project and alternative selected during a 1992 EIR Certification and 1994 Record of Decision (ROD);
- Various alternatives were studied for the previously approved project which required consideration of a reasonable range of alternatives; and
- The Draft Supplemental EIR/EIS addresses changes to environmental conditions and regulatory requirements but not changes to the previously approved project as a whole.

This Natural Environment Study (NES) has been developed to support the Supplemental EIR/EIS for the Proposed Project. Due to the fact that the conditions of biological resources are dynamic (i.e., location of special-status species and quality of habitat may change within the next several years), the impact assessment may need to be revised as more current annual data are obtained. The results presented in this NES are based on literature searches and biological resource surveys conducted in 2011, 2013, 2014, and 2015, in addition to surveys conducted for other projects in portions of the Biological Study Area (BSA) in 2001 and 2003.

In 2011, reconnaissance-level biological resource surveys, focused plant and wildlife surveys, and vegetation mapping were performed to document the existing conditions of biological resources within the BSA. The BSA included areas of undeveloped land within Caltrans right-of-way that are dominated by ruderal and ornamental vegetation.

In 2013, reconnaissance-level biological resource surveys and the late season focused plant surveys were performed to determine if biological conditions were consistent with the 2011 findings and document any additional plant resources observed.

In 2014, the early season focused plant survey was performed to complete a full season plant survey.

In 2015, an early season focused plant survey and a reconnaissance survey were conducted on the portion of the County of Orange parcel within the Project Area. In addition, mapping and resource impacts for this parcel were evaluated based on a combination of findings from previous biological resource surveys for other projects and analysis of aerial photography (Bing Maps). This area is located within the Natural Community Conservation Plan and Habitat Conservation (NCCP/HCP) Plan Area and is, therefore, covered under the "take" authorization issued to the Transportation Corridor Agencies (TCA) and other participants in the NCCP/HCP.

With the exception of coastal California gnatcatcher (CAGN), no listed species were observed during the course of the studies. In addition, several non-listed special-status species were observed within the BSA. A combination of avoidance and minimization measures and compensatory mitigation would reduce the impacts to these special-status species. In addition, invasive species would be removed from the Project Area and controlled during construction to ensure compliance with Executive Order (EO) 13112.

In 2008 and 2013, routine jurisdictional delineation surveys were conducted in the BSA since jurisdictional features may occur that will be subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW) and United States Army Corps of Engineers (USACE). Applicable permits and/or notifications may be required from regulatory agencies for areas of potential impact including the USACE (pursuant to Section 404 of the Clean Water Act [CWA]), the CDFW (pursuant to Section 1602 of the California Fish and Game Code), and the Regional Water Quality Control Board (RWQCB) (pursuant to Section 401 of the CWA). No likely jurisdictional drainage features were identified along SR-241, but several drainage features were noted along SR-91 that may be subject to regulatory requirements and jurisdiction. One drainage feature (Feature 8) at the east end of SR-91 already has a USACE approved determination and was found to be nonjurisdictional.

Federal Section 7 consultation between Caltrans and the United States Fish and Wildlife Service (USFWS) will be necessary to consider potential impacts to USFWS-designated CAGN critical habitat, thread-leaved brodiaea, Braunton's milk-vetch, western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo, and coastal sage scrub within the BSA. Avoidance, minimization, and/or mitigation measures described in this NES will be acknowledged in a Biological Assessment.

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List of Abbreviated Terms

ac	acre(s)
amsl	above mean sea level
APN	Assessor's Parcel Number
BMPs	Best Management Practices
BSA	Biological Study Area
CAGN	coastal California gnatcatcher
Cal-IPC	California Invasive Plant Council
California walnut	southern California black walnut
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CIP	Corridor Improvement Project
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CNPSEI	California Native Plant Society's Electronic Inventory of Rare and Endangered Vascular Plants of California
County	County of Orange
CRPR	California Rare Plant Rank
CSS	coastal sage scrub
CWA	Clean Water Act (federal)
dbh	diameter at breast height
DOT	United States Department of Transportation
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Environmentally Sensitive Area
ETC	Eastern Transportation Corridor
Express Lanes	tolled freeway lanes
FEMA	Federal Emergency Management Agency
F/ETCA	Foothill/Eastern Transportation Corridor Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FR	Federal Register

ft	foot/feet
GIS	geographic information systems
HCP	Habitat Conservation Plan
HOV	high-occupancy vehicle
I-5	Interstate 5
I-15	Interstate 15
IPaC	USFWS Information, Planning, and Conservation
km	kilometer(s)
LSA	LSA Associates, Inc.
m	meter(s)
MBTA	Migratory Bird Treaty Act of 1918
mi	mile(s)
MOU	Memorandum of Understanding
NCASI	National Council for Air and Stream Improvement, Inc.
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Policy Act
NES	Natural Environment Study
No.	Number
OHWM	ordinary high water mark
PM	Post Mile
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
RCP	reinforced concrete pipe
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SAN	Streambed Alteration Notification
SMC	Systems Management Concept
sq mi	square mile
SR-133	State Route 133
SR-55	State Route 55 (also called the Costa Mesa Freeway)
SR-71	State Route 71
SR-91	State Route 91
SR-241	State Route 241
SR-261	State Route 261
SSC	California Species of Special Concern
TCA	Transportation Corridor Agencies
TNW	traditional navigable water
U.S.	United States

USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WR-MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan

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Chapter 1. Introduction

Caltrans District 12, in cooperation with F/ETCA proposes the SR-241/SR-91 Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91 (SR-91 Express Lanes). SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The SR-91 Express Lanes is a two-lane tolled facility located within the median of SR-91, from SR-55, to the Orange/Riverside County line (east of the SR-241 interchange). The existing interchange connects all lanes of the northbound and southbound SR-241 to non-tolled, general purpose lanes of eastbound and westbound SR-91. There is currently no direct connection between the SR-241 and the SR-91 Express Lanes.

The Proposed Project, located at the junction of SR-241 and SR-91 and in the cities of Anaheim, Yorba Linda, and Corona and the counties of Orange and Riverside, would provide improved access between SR-241 and SR-91 and is proposed to be a tolled facility. The proposed median-to-median connector project encompasses 12-ORA-241 (Post Mile [PM] 36.1/39.1), 12-ORA-91 (PM 14.7/18.9), and 08 RIV-91 (PM 0.0/1.5) for a length of approximately 8.7 miles (mi).

Improvements for the connector are limited to 5.9 mi in the cities of Anaheim and Yorba Linda from south of the Windy Ridge Wildlife Undercrossing on SR-241 to Coal Canyon Undercrossing on SR-91. The remaining 2.8 mi of the Proposed Project is limited to FasTrak signage improvements (advance signage) in the cities of Anaheim (1.2 mi total), Yorba Linda (0.1 mi) and Corona (1.5 mi), with exact placement pending the Final Design process. The Proposed Project is mostly within existing Caltrans right-of-way, with one partial acquisition adjacent to eastbound SR-91. Construction access and staging areas would occur within existing Caltrans right-of-way.

The proposed median-to-median connector is a later phase of the ETC project, previously approved in 1994. It was originally evaluated as a SR-241/SR-91 HOV direct connector in the 1991 ETC Draft EIR/EIS, 1992 ETC Final EIR, and the 1994 ETC Final EIS (all of which studied a broader project area with improvements on SR-133, SR-241, and SR-261).

The SMC for the ETC projected that each Build Alternative would be staged, incorporating general purpose traffic and eventually HOV lanes, to meet the

forecasted demand. Under the SMC, ETC construction would be completed in one stage, with three or more phases.

To implement this later phase of the ETC, a Draft Supplemental EIR/EIS is being prepared to focus on the eastern portion of the original project and to address changes to environmental conditions and regulatory requirements. Various alternatives were studied in the 1991 ETC Draft EIR/EIS, 1992 ETC Final EIR, and the 1994 ETC Final EIS; however, the Draft Supplemental EIR/EIS will include a No Build and only one Build Alternative for the median-to-median connector for the following reasons:

- There are limited locations for a median-to-median connector between SR-241 and SR-91;
- The median-to-median connector is a component of a previously approved project and alternative selected during a 1992 EIR Certification and 1994 Record of Decision (ROD);
- Various alternatives were studied for the previously approved project which required consideration of a reasonable range of alternatives; and
- The Draft Supplemental EIR/EIS addresses changes to environmental conditions and regulatory requirements but not changes to the previously approved project as a whole.

This Natural Environment Study (NES) has been developed to support the Supplemental EIR/EIS for the Proposed Project.

1.1. Project History

1.1.1. Project Purpose

As stated in the Final EIR and Final EIS, the overall objective of the ETC was to accommodate traffic growth associated with planned and approved development in the County of Orange. Specifically, the ETC was proposed to meet the following objectives, which are applicable to the Proposed Project (which is a later phase of the ETC):

- To provide relief for existing freeways;
- To improve traffic flow on the regional transportation system;
- To service existing and planned development consistent with the General Plans of the counties and the cities in areas that will benefit from the project;

- To employ advanced transportation technology for the maximum operational and design efficiency and automatic vehicle monitoring for toll collections; and
- To implement the County of Orange Master Plan of Arterial Highways.

In addition to the originally intended objectives, changed circumstances at the junction of SR-241 and SR-91 have led to the following updated objectives for the Proposed Project:

- Implement the buildout of the ETC, as approved in 1994;
- Attain compatibility with the SR-91 mainline and Express Lanes;
- To improve traffic flow by minimizing queue-jumping on northbound SR-241 at the westbound SR-91 general purpose lane connector and at the eastbound SR-91 general purpose lane connector;
- To help achieve the Regional Mobility Plan goals of reducing emissions from transportation sources by improving movement in congested areas along the SR-241 and SR-91; and
- To enhance the efficiency of the tolled system, thereby reducing congestion on the non-tolled system on the SR-91.

1.1.2. Project Need

The Proposed Project is needed to improve access between the SR-241 and SR-91 Express Lanes. The lack of connectivity between the SR-241 and the SR-91 Express Lanes negatively affects traffic flow, worsens an already congested SR-91 during peak hours, and results in a long queue of vehicles on northbound SR-241 trying to access eastbound SR-91. As a result, motorists inappropriately “queue jump” (i.e., change lanes at the last minute) during congested traffic periods, contributing to delays.

The deficiencies negatively affect traffic flow and worsen an already congested SR-91 during peak hours.

1.2. Project Description

Caltrans District 12, in cooperation with F/ETCA proposes the SR-241/SR-91) Express Lanes Connector Project (Proposed Project) to construct a median-to-median connector between SR-241 and the tolled lanes in the median of SR-91 (SR-91 Express Lanes). SR-241 is a tolled facility, starting at the Oso Parkway interchange, in south Orange County, to its terminus at SR-91. The SR-91 Express Lanes is a two-lane tolled facility located within the median of SR-91, from SR-55, to the

Orange/Riverside County line (east of the SR-241 interchange). The existing interchange connects all lanes of the northbound and southbound SR-241 to non-tolled, general purpose lanes of eastbound and westbound SR-91. There is currently no direct connection between the SR-241 and the SR-91 Express Lanes.

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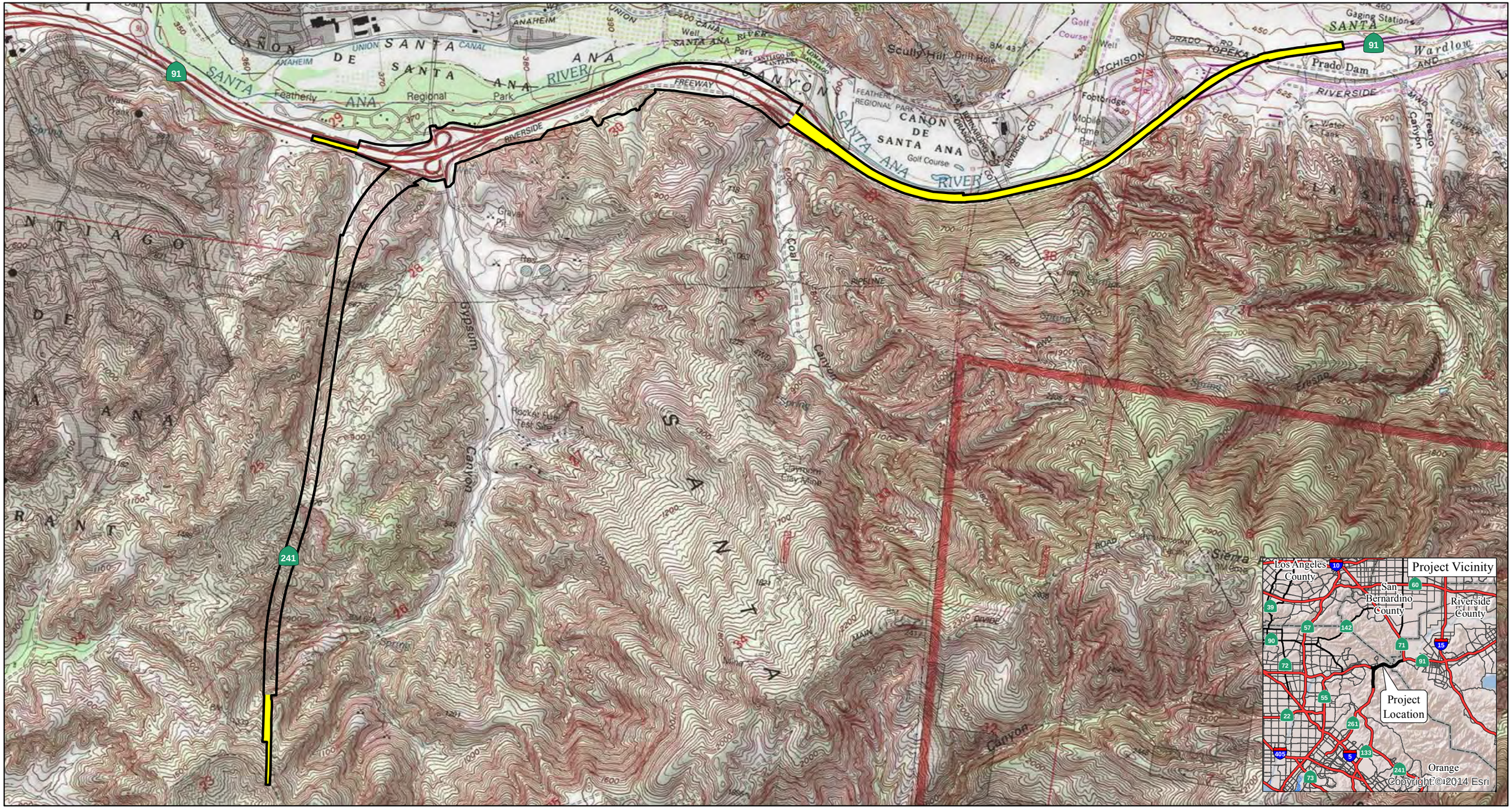
Improvements for the connector are limited to 5.9 mi in the cities of Anaheim and Yorba Linda from south of the Windy Ridge Wildlife Undercrossing on SR-241 to Coal Canyon Undercrossing on SR-91. The remaining 2.8 mi of the Proposed Project is limited to FasTrak signage improvements (advance signage) in the cities of Anaheim (1.2 mi total), Yorba Linda (0.1 mi) and Corona (1.5 mi), with exact placement pending the Final Design process. The Proposed Project is mostly within existing Caltrans right-of-way, with one partial acquisition adjacent to eastbound SR-91. Construction access and staging areas would occur within existing Caltrans right-of-way.

The proposed median-to-median connector is a later phase of the ETC project, previously approved in 1994. It was originally evaluated as a SR-241/SR-91 HOV direct connector in the 1991 ETC Draft EIR/EIS, 1992 ETC Final EIR, and the 1994 ETC Final EIS (all of which studied a broader project area with improvements on SR-133, SR-241, and SR-261).

The SMC for the ETC projected that each Build Alternative would be staged, incorporating general purpose traffic and eventually HOV lanes, to meet the forecasted demand. Under the SMC, ETC construction would be completed in one stage, with three or more phases.

To implement this later phase of the ETC, a Draft Supplemental EIR/EIS is being prepared to focus on the eastern portion of the orig inal project and to address changes to environmental conditions and regulatory requirements. Various alternatives were studied in the 1991 ETC Draft EIR/EIS, 1992 ETC Final EIR, and



LEGEND

- Project Location
- Advance Signage Areas

FIGURE 1

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SOURCE: USGS 7.5' Quad - Black Star Canyon (1988), CA

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SR-241/SR-91 Express Lanes Connector

Project Location

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the 1994 ETC Final EIS; however, the Draft Supplemental EIR/EIS will include a No Build and only one Build Alternative for the median-to-median connector for the following reasons:

- There are limited locations for a median-to-median connector between SR-241 and SR-91;
- The median-to-median connector is a component of a previously approved project and alternative selected during a 1992 EIR Certification and 1994 Record of Decision (ROD);
- Various alternatives were studied for the previously approved project which required consideration of a reasonable range of alternatives; and
- The Draft Supplemental EIR/EIS addresses changes to environmental conditions and regulatory requirements but not changes to the previously approved project as a whole.

The Proposed Project is being coordinated with the Orange County Transportation Authority (OCTA) and the Riverside County Transportation Commission (RCTC). The SR-91 Express Lanes are tolled and are operated by OCTA, from SR-55 to the Orange County/Riverside County line. Easterly from the county line, the lanes are HOV non-tolled lanes; however, as part of the RCTC SR-91 Corridor Improvement Project (SR-91 CIP), RCTC will operate median tolled lanes starting from the County line and ending at Interstate 15 (I-15). As part of the SR-91 CIP, the median tolled lanes include a connector to southbound I-15 general purpose lanes. Implementation of the SR-91 CIP along with the Proposed Project would provide a direct connection between SR-241 and southbound I-15.

Caltrans and F/ETCA intend to begin construction of the Proposed Project in 2017.

1.3. Project Alternatives

Two alternatives are being analyzed in this document: the Build Alternative and the No Build Alternative.

1.3.1. Build Alternative (Two-Lane Express Lanes Connector)

The Build Alternative would construct a two-lane express lane median-to-median connector between SR-241 and SR-91, which would connect lanes from the median of northbound SR-241 to the existing eastbound SR-91 Express Lanes. The reverse movement would also be accommodated, from the westbound SR-91 Express Lanes to the median of southbound SR-241. The connector would be tolled.

On SR-241 at the southern end of the Proposed Project (near PM 36), FasTrak signage would be improved approximately 0.2 mi south of the Windy Ridge Wildlife Undercrossing. For southbound SR-241, an additional lane and shoulder would be provided by widening Windy Ridge Wildlife Undercrossing into the existing median and improving the highway median approximately 10,000 ft to the north. For northbound SR-241, starting approximately 5,000 ft north of Windy Ridge Wildlife Undercrossing, an additional lane and shoulder will be provided by improving the highway median approximately 5,000 ft to the north. At this point on SR-241 (approximately PM 38), the two connector lanes would converge within the existing median on fill and two new bridge structures approximately 700 ft (over the northbound SR-241 to westbound SR-91 general purpose lane connector) and 2,000 ft in length (to merge with SR-91). All approximate lengths will be further refined during the Final Design process.

Additional pavement would be added between the existing northbound SR-241/ eastbound SR-91 and the northbound SR-241/westbound SR-91 general purpose connectors in order to accommodate a concrete barrier separation to prevent vehicles traveling on the westbound SR-91 general purpose connector to “queue jump” into the eastbound SR-91 general purpose connector. This would improve traffic flow on the SR-241.

The Build Alternative would merge into the existing OCTA SR-91 Express Lanes at the western limits of the RCTC SR-91 CIP, which extends the SR-91 Express Lanes further east to I-15. The Build Alternative is also compatible with the approved SR-91 CIP for both the initial and ultimate configurations, including the number and widths of the SR-91 Express Lanes, express auxiliary lanes, and general purpose lanes.

1.3.1.1. Improvements on Eastbound SR-91

At the western end of SR-91 project terminus, FasTrak signage improvements would occur approximately within the first 0.1 mi of the project. The Gypsum Canyon Road on- and off-ramps and the northbound-SR-241-to-eastbound-SR-91 general purpose connector would be realigned to accommodate the Proposed Project.

To accommodate the addition of the median-to-median connector, the existing eastbound SR-91 lanes would be shifted to the south by adding pavement to the south and restriping. The number of existing eastbound SR-91 general purpose lanes would be maintained within the project limits. At the eastern terminus of the connector bridge structure, the eastbound connector lane would continue for approximately 1 mi

within the SR-91 median prior to tapering to tie in to the SR-91 CIP Express Lanes at Coal Canyon Undercrossing. Also near the eastern terminus of the connector lane bridge structure (approximately 2,000 ft west of Gypsum Canyon Road), one additional eastbound auxiliary express lane would be provided, connecting to the auxiliary lane for the SR-91 CIP also at Coal Canyon Undercrossing. These improvements would provide a four-lane express lane facility and tapering down to three lanes, between the connector and Coal Canyon Undercrossing.

The eastbound SR-91 Express Lanes would also have striped buffers (tapering from 0 ft to 4 ft). The Proposed Project would provide a striped buffer to separate the general purpose lanes from the SR-91 Express Lanes and a new striped buffer to temporarily separate the connector lane from the SR-91 Express Lanes. Additional separators within the striped buffers will be further considered during the Final Design process.

Approximately 3,600 ft west of Coal Canyon Undercrossing, grading would occur to accommodate the shift of the lanes to the south. The grading and construction of an access road would encroach into County-owned land on Assessor's Parcel Number (APN) 085-071-56. Approximately 5 acres (ac) of land on this parcel would be acquired from the County of Orange for Caltrans right-of-way. To the north of this parcel, a 1,000 ft retaining wall would be required, but would not viewable from the highway. Further details for the retaining wall and the exact length will be determined during the Final Design process.

1.3.1.2. Improvements on Westbound SR-91

At the eastern terminus of the connector bridge structure, the westbound connector lane would extend for approximately 1 mi within the SR-91 median, with the lane tapering approximately 1,000 ft west of Coal Canyon Undercrossing. For the eastern 1,000 ft of the westbound connector express lane, one additional westbound auxiliary express lane would be provided to accommodate merging and diverging to and from the SR-91 Express Lanes. These improvements would provide a four-lane express lane facility for approximately 1,000 ft. To provide the additional SR-91 Express Lanes, restriping would occur between points east of the Gypsum Canyon Road Undercrossing and west of Coal Canyon Undercrossing.

There would be a striped buffer (tapering from 0 ft to 2 ft) to separate the westbound SR-91 Express Lanes from the general purpose lanes. Additional separators within the striped buffer will be further considered during the Final Design process. At the

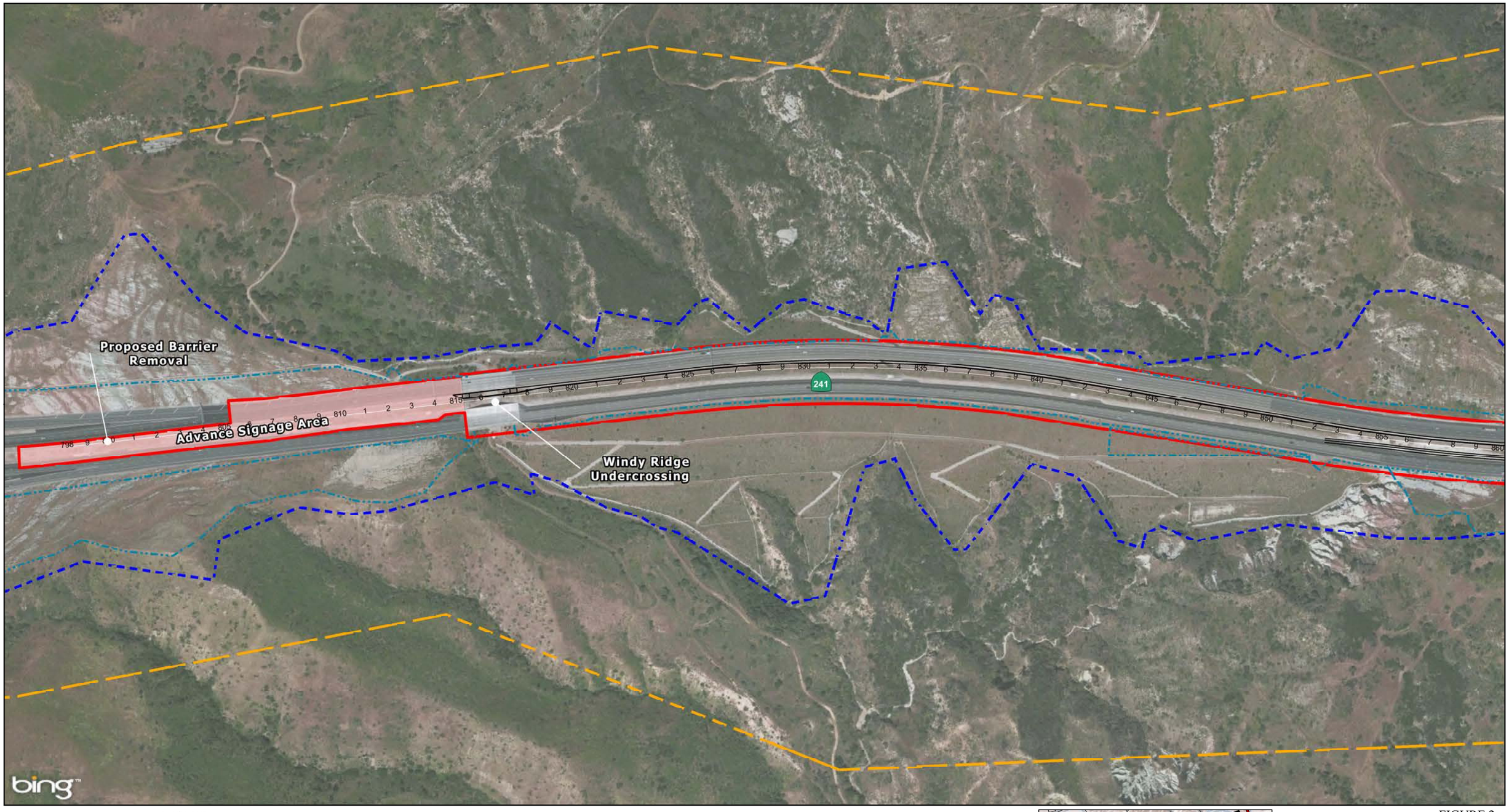
eastern end of SR-91 project terminus, FasTrak signage improvements would occur between Coal Canyon Undercrossing and Green River Road within the existing median and highway footprint of westbound SR-91. (No roadway improvements would occur in this area.)

The Build Alternative is shown in Figure 2.

1.3.2. No Build Alternative

Under this alternative, no direct toll connector would be constructed between SR-241 and SR-91. The No Build Alternative:

- Would not close the toll connector gap between SR-241 and the SR-91 Express Lanes;
- Would maintain the existing connections between SR-241 and SR-91 in the Project Area;
- Would not prevent motorists from inappropriately "queue jumping" during congested traffic periods, thereby disrupting traffic flow on the northbound SR-241 connector to the eastbound SR-91 general purpose lanes during PM Peak hours; and
- Would provide a benchmark by which the public and decision-makers can compare the magnitude of the effects of the Build Alternative.



LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Construction Access
- Station Line
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

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SOURCE: Bing (2012); RBF (7/1/2015)

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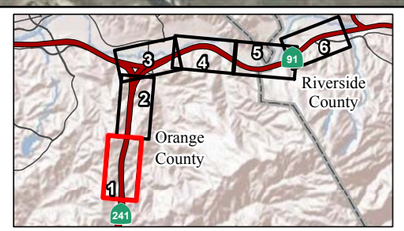

FIGURE 2
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SR-241/SR-91 Express Lanes Connector

Build Alternative

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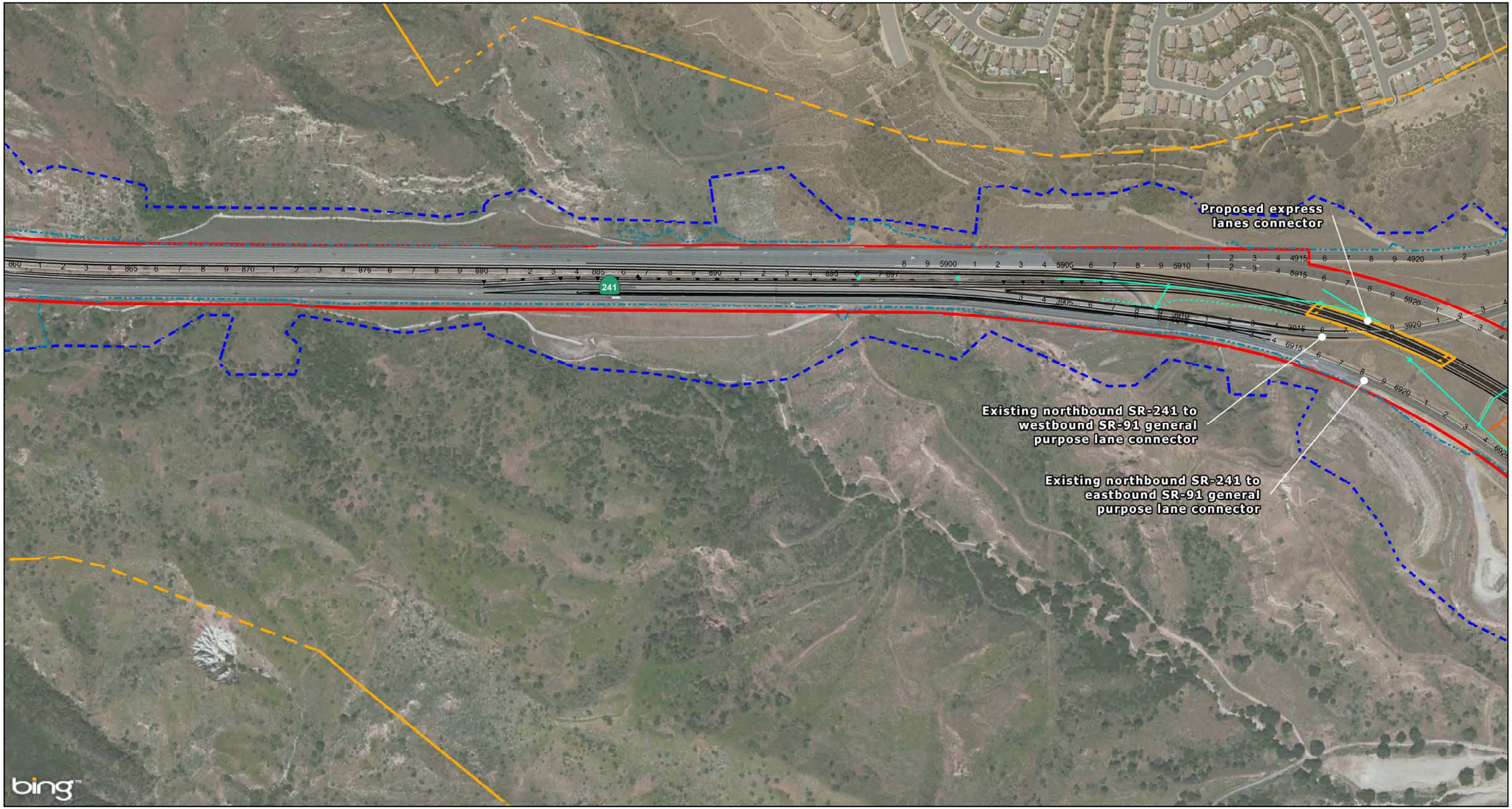

LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
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- Proposed Retaining Wall
- Proposed Construction Access
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- Proposed Construction Staging Area
- Proposed Biofiltration Swale
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SOURCE: Bing (2012); RBF (7/1/2015)

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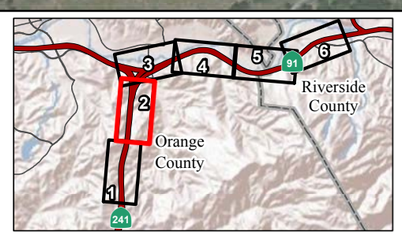

FIGURE 2
Sheet 2 of 6

SR-241/SR-91 Express Lanes Connector

Build Alternative

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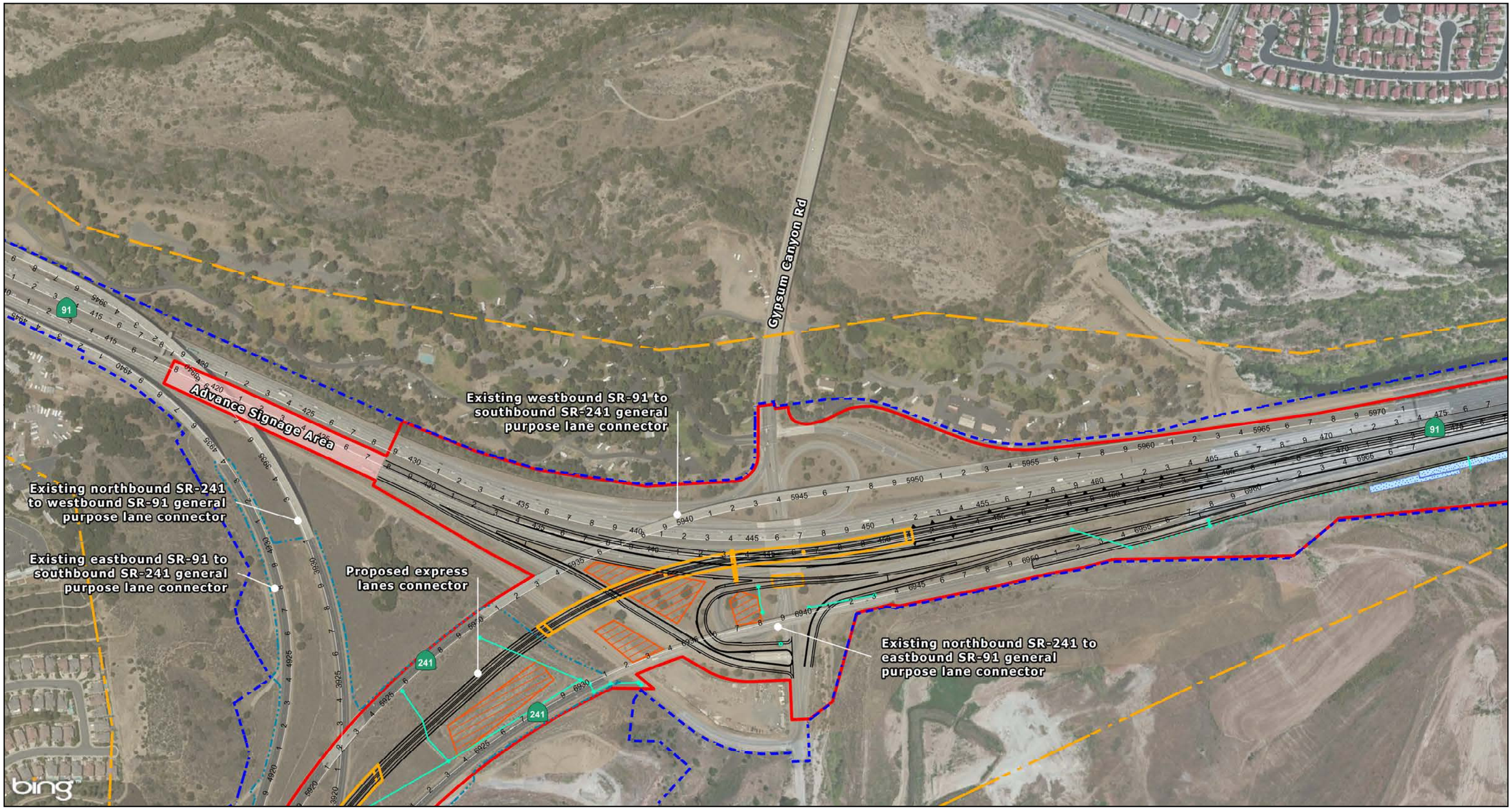

LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Construction Access
- Station Line
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

N

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FEET

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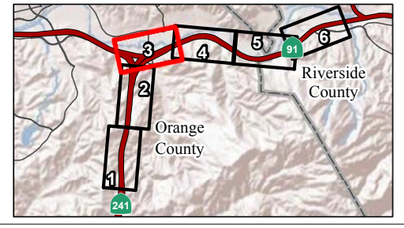

FIGURE 2
Sheet 3 of 6

SR-241/SR-91 Express Lanes Connector

Build Alternative

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Area continues along SR-91
within Caltrans Right-of-Way

Coal Canyon Rd

Advance Signage Area

Coal Canyon
Undercrossing

Area continues along SR-91
within Caltrans Right-of-Way

bing™

LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Construction Access
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- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

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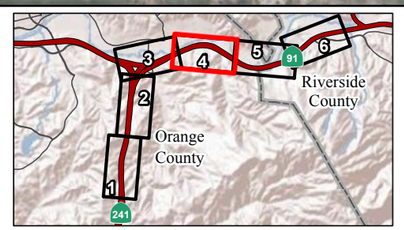

FIGURE 2
Sheet 4 of 6

SR-241/SR-91 Express Lanes Connector

Build Alternative

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Green River Golf Club

Green River Golf Club

San Bernardino County

Riverside County

Orange County

Advance Signage Area

Orange County

Riverside County

bing

LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Construction Access
- Station Line
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

N

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SOURCE: Bing (2012); RBF (7/1/2015)

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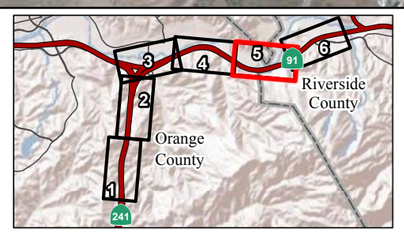

FIGURE 2

Sheet 5 of 6

SR-241/SR-91 Express Lanes Connector

Build Alternative

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LEGEND

- Project Area (Physical Improvements)
- Advance Signage Areas
- ETC EIR/EIS Project Area
- Existing Caltrans Right-of-Way
- Proposed Right-of-Way
- Existing Wildlife Fencing
- Proposed Roadway
- Proposed Grading Limits (Slope and Access Road)
- Proposed Bridge Structure
- Proposed Retaining Wall
- Proposed Construction Access
- Station Line
- Proposed Construction Staging Area
- Proposed Biofiltration Swale
- Proposed Media Filter
- Proposed Storm Drain Pipe
- Proposed Storm Drain Swale
- Proposed Storm Drain Structure

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FEET

SOURCE: Bing (2012); RBF (7/1/2015)

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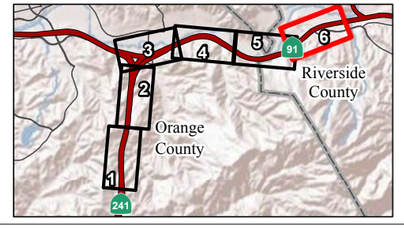

FIGURE 2
Sheet 6 of 6

SR-241/SR-91 Express Lanes Connector

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Chapter 2. Study Methods

2.1. Regulatory Requirements

2.1.1. Review of Jurisdiction Subject to Section 404 of the Clean Water Act

Pursuant to Section 404 of the federal Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) regulates the discharge of dredged and/or fill material into waters of the United States. "Waters of the United States" is defined in 33 Code of Federal Regulations (CFR) Part 328 and currently includes: (1) all navigable waters (including all waters subject to the ebb and flow of the tide), (2) all interstate waters and wetlands, (3) all impoundments of waters mentioned above, (4) all tributaries to waters mentioned above, (5) the territorial seas, and (6) all wetlands adjacent to waters mentioned above.

The discharge of dredged or fill material (temporarily or permanently) into waters of the United States (including wetlands) requires authorization from the USACE pursuant to the permit program established by Section 404 of the CWA. All federal agencies are to avoid impacts to wetlands whenever there is a practicable alternative. Based on the jurisdictional delineations that have been completed and the current Project impact limits, a Section 404 permit is expected to be required for this Project. The USACE will make a jurisdictional determination for drainage features in the Project Area after receipt of a preliminary or approved jurisdictional determination form.

2.1.2. Review of Jurisdiction Subject to Section 1600 of the California Fish and Game Code

Pursuant to Division 2, Chapter 6, Sections 1600–1602 of the California Fish and Game Code, the California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife.

Unlike the USACE, CDFW regulates not only the discharge of dredged or fill material, but all activities that alter streams and lakes and their associated habitats. These additional areas include some artificial stock ponds and irrigation ditches constructed on uplands and the addition of riparian habitat supported by a river, stream, or lake regardless of the riparian area's federal wetland status. In addition, the lateral extent of a streambed may, in some situations, extend to include broader cross-

sectional widths of drainages and floodplains above and beyond the area subject to USACE jurisdiction, depending on the hydrological regime of a stream or river. For this reason, the dimensions of a CDFW jurisdictional streambed may vary substantially from the USACE jurisdiction within the same stream or river.

A CDFW Streambed Alteration Notification (SAN) is required for all activities resulting in impacts to streambeds and their associated riparian habitats, and a Streambed Alteration Agreement (SAA) may be needed. An SAA is expected to be required for the Proposed Project.

2.1.3. Review of Jurisdiction Subject to Section 401 of the Clean Water Act

The Regional Water Quality Control Board (RWQCB) is responsible for the administration of Section 401 of the CWA in California. Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S., must obtain a State certification that the discharge complies with other provisions of the CWA. Typically, the areas subject to RWQCB jurisdiction coincide with those of the USACE (i.e., waters of the United States, including any wetlands). RWQCB also asserts authority over waters of the State under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

Upon a jurisdictional determination (concurrence) from the USACE, a Section 401 Water Quality Certification from the RWQCB is expected to be required for the Project.

2.1.4. Executive Order 11990 – Protection of Wetlands

Executive Order 11990 has similar requirements to those in Section 404(b)(1) of the CWA. Executive Order 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U.S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included.

This must be documented in a specific Wetlands Only Practicable Alternative Finding in the project's environmental document. An additional requirement is to provide early public involvement in projects impacting wetlands. The Federal Highway

Administration (FHWA) provides technical assistance (Technical Advisory 6640.8A) and reviews environmental documents for compliance.

2.1.5. Federal Endangered Species Act

Under provisions of Section 7(a)(2) of the Federal Endangered Species Act (FESA), a federal agency that permits, licenses, funds, or otherwise authorizes a project activity must consult with the United States Fish and Wildlife Service (USFWS) to ensure that its actions would not jeopardize the continued existence of any listed species, or destroy or adversely modify critical habitat that may be impacted by the Project. Chapter 4 of this NES provides details on the Project's impacts to federally listed plant and wildlife species.

Federal Section 7 consultation between Caltrans and the USFWS will be necessary for potential adverse impacts to coastal California gnatcatcher (CAGN) designated critical habitat within the Biological Study Area (BSA). Avoidance, minimization, and/or mitigation measures described in this NES will be acknowledged in a Biological Assessment.

2.1.6. California Endangered Species Act

The California Endangered Species Act (CESA) is administered by the CDFW and prohibits the take of plant and animal species identified as either threatened or endangered in the State of California by the Fish and Game Commission (Fish and Game Code Sections 2050–2097). "Take" means to hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Sections 2080.1 and 2081 of CESA allow the CDFW to authorize exceptions to the prohibition of take of the State-listed threatened or endangered plant and animal species for purposes such as public and private development. CDFW authorization of "take" cannot jeopardize the continued existence of any listed species. Chapter 4 of this NES provides details on the Project's impacts to State-listed plant and wildlife species.

Take authorization from the CDFW is not expected to be required for this Project.

2.1.7. Migratory Bird Treaty Act

Native bird species and their nests are protected under the Migratory Bird Treaty Act of 1918 (MBTA) (16 United States Code [USC] 703–712) and by California Fish and Game Code Sections 3503, 3503.5, and 3800. These laws prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering for sale, purchase, or barter, of any migratory bird and its eggs, parts, and nests, except as authorized under a valid permit.

Executive Order (EO) 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) directs federal agencies "… taking actions that have, or are likely to have, a measurable negative impact on migratory bird populations to develop and implement a Memorandum of Understanding with the Fish and Wildlife Service that promotes the conservation of migratory bird populations."

2.1.8. Executive Order 13112 – Invasive Species

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112, requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "… any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999, directs the use of the State's noxious weed list, maintained by the California Invasive Species Council, to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

Under the EO, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the U.S. or elsewhere unless all reasonable measure to minimize the risk of harm have been analyzed and considered.

2.1.9. California Wildlife Protection Act of 1990

On June 5, 1990, voters approved Proposition 117, the California Wildlife Protection Act. The Act required that California spend no less than $30 million a year on wildlife habitat protection, endangered species preservation, and related purposes (e.g., protection of lands with wildlife corridors, restoration of stream and riparian habitat, and improvement of public access) from a fund called the Habitat Conservation Fund.

Furthermore, Proposition 117 prohibited trophy hunting of the California mountain lion and made it a specially protected mammal. It is illegal to take, injure, possess, transport, import or sell any lion or any part or product of a lion.

2.1.10. Orange County Central and Coastal Subregion Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP)

The Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) was approved in 1996 and serves as a comprehensive,

multijurisdictional habitat based conservation program pursuant to Section 10(a)(1)(B) of the FESA of 1973 and the Natural Community Conservation Planning Act of 1991, focusing on the conservation of multiple species and their associated habitats while allowing for economic uses that meet social and economic needs in central and coastal areas of the County of Orange. The NCCP/HCP is utilized to allow participating jurisdictions to authorize the "take" of both the plant and wildlife species identified within the NCCP/HCP Plan Area. Regulation of the "take" of threatened, endangered, and rare species is authorized by the wildlife resource agencies (USFWS and CDFW), which allow "Take Authorization" for otherwise lawful actions (e.g., public and private development) in exchange for the assembly and management of a coordinated NCCP/HCP Reserve System. As a participant in the NCCP/HCP, the TCA is obligated to specific conditions under its take authorization, which remains with TCA regardless of whether Caltrans has ownership of the roadway. However, the original 1994 Biological Opinion (Biological Opinion; Appendix G) for the ETC was issued to the FHWA; thus, Caltrans can request Section 7 consultation with the USFWS.

A majority of the Project Area is located with the NCCP/HCP Plan Area. However, the areas north of westbound SR-91 are located outside the NCCP/HCP Plan Area and are therefore not covered under the take authorization issued to participants in the NCCP; however, impacts are not expected since only restriping of existing pavement is expected along westbound SR-91. An NCCP/HCP Existing Use Area overlaps the eastbound SR-91 lanes in the easternmost end of the Proposed Project at Coal Canyon Undercrossing. The Proposed Project is not located within any portion of the NCCP/HCP Reserve. However, as shown on Appendix A (Sheet 1 of 9), SR-241 bisects a part of the Reserve near Windy Ridge Wildlife Undercrossing, where this wildlife crossing is designed to functionally link the NCCP/HCP Reserve with the Coal Canyon Ecological Reserve, Lomas de Santiago, and the Cleveland National Forest.

The entire footprint of the ETC Corridor was assumed take through its construction, and per the NCCP/HCP documents; all development activities and uses addressed by the NCCP/HCP by participating landowners within the NCCP/HCP Plan Areas are considered fully mitigated by the NCCP/HCP. No additional mitigation is required for impacts to identified species and their habitat or for species residing in covered habitats.

Chapter 4 of this NES provides an analysis of special-status species in the context of the NCCP/HCP.

2.1.11. Western Riverside County Multiple Species Habitat Conservation Plan (WR-MSHCP)

The Western Riverside County Multiple Species Habitat Conservation Plan (WR MSHCP) serves as an HCP pursuant to Section 10(a)(1)(B) of the federal Endangered Species Act of 1973, as well as a Natural Communities Conservation Plan (HCCP) under the NCCP Act of 2001. The WR-MSHCP allows participants "Take" of plant and wildlife species identified with the Plan Area as granted by the USFWS and the CDFW for lawful actions such as public and private development in exchange for the assembly and management of a coordinated WR-MSHCP Conservation Area. As a result, lawful actions may incidentally Take or harm individual species or their habitat outside of the WR-MSHCP Conservation Area.

The WR-MSHCP provides for the assembly of Conservation Areas consisting of Core Areas and Linkages for the conservation of covered species. The Conservation Area is to be assembled from portions of the WR-MSHCP Criteria Area, which consists of quarter-section (i.e., approximately 160 ac) Criteria Cells, each with specific criteria for the species conservation within that cell. The WR-MSHCP provides an incentive-based program, the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) for adding land to the WR-MSHCP Conservation Area. If it is determined that all or a portion of the property is needed for inclusion in the WR-MSHCP Conservation Area, then various incentives may be available to the property owner in exchange for the conveyance of a property interest.

The WR-MSHCP requires focused surveys for certain plant, bird, amphibian, mammal, and insect species for project sites located within designated survey areas when suitable habitat is present (e.g., burrowing owl). Surveys for listed riparian birds are required when suitable riparian habitat is present, and surveys for sensitive fairy shrimp species are required when vernal pools or similar habitat is present.

The portion of the Project Area in Riverside County is located within the WR-MSHCP Conservation Area and includes Criteria Cells/Criteria Area and designated survey areas that overlap the Project Area. This portion of SR-91 is planned for advance signage only and is not located within any portion of the WR-MSHCP Conservation Area that is vegetated as it consists only of the paved

roadway and shoulder. Placement of advance signage along SR-91 is shown on Appendix A (Sheets 9–13).

Chapter 5 of this NES provides a discussion of the SR-91 advance signage area in the context of the WR-MSHCP and further discussion regarding the application of the WR-MSHCP objectives, policies, procedures, and guidelines to the Project Area in Riverside County.

2.2. Studies Required

2.2.1. Definition of Biological Study Area

The BSA was determined by incorporating electronic data provided by the design engineer into a geographic information system (GIS) layout, which included areas of potential direct impact. The limits of the BSA were extended beyond the maximum extent of potential direct impact, where necessary, to identify sensitive biological resources within and adjacent to the Project Area, but were limited to within the SR-241 and SR-91 right-of-way except the slope south of SR-91, approximately 3,600 ft west of Coal Canyon Undercrossing, that would be graded. This slope area, on County land (APN 085-071-56), is subject to a conservation easement and is part of the Irvine Ranch National Natural Landmark and is also a California Natural Landmark. Although the slope would be revegetated after construction is complete, a maintenance access road and drainage structures may need to be constructed on the slope; therefore, all impacts on this parcel are considered permanent impacts.

In general, this provided for a survey area that was larger than the area of potential direct impact. The BSA was then used as the study limit boundaries for all biological studies.

2.2.2. General Surveys and Habitat Assessments

Prior to performing the field surveys, existing documentation relevant to the BSA was reviewed. The most recent records of the California Natural Diversity Data Base (CNDDB) (Commercial Version) and the California Rare Plant Rank (CRPR; formerly the California Native Plant Society's [CNPS] Electronic Inventory of Rare and Endangered Vascular Plants of California) (2011, 2013, and 2014) were reviewed for the quadrangles containing and surrounding the BSA (i.e., minimally the *Orange, Yorba Linda, Black Star Canyon,* and *Prado Dam, California* United States Geological Survey [USGS] 7.5-minute quadrangles). These databases contain records of reported occurrences of federal- or State-listed threatened, endangered, proposed endangered or threatened plant species; California Species of Special Concern (SSC); or

otherwise special-status plant species or habitat that may occur within or in the immediate vicinity of the BSA. In addition, a list of species occurring in the County of Orange was obtained from the USFWS website on May 19 and June 15, 2011. A preliminary list of species occurring in the BSA was obtained from the USFWS Information, Planning, and Conservation (IPaC) System online database most recently on December 1, 2014. An official species list letter from the USFWS most recently on February 2, 2015, provided a list of proposed, threatened, or endangered species and sensitive habitats potentially occurring in the vicinity of the Proposed Project (Appendix H; USFWS 2015b).

The reconnaissance-level survey and plant community mapping was conducted on May 10, 2011, March 17, 2015, and March 19, 2015, by LSA Associates, Inc. (LSA) Biologist Stan Spencer, Ph.D. Plant communities and subcommunities were determined in general accordance with categories set forth in Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). Plant communities were mapped on an orthographically corrected 1 inch = 200 ft aerial photograph. Plant communities that were considered too small to map separately were included in nearby community types determined to be the most appropriate based on species composition.

To adequately identify plant communities within the BSA, survey methods included pulling off onto SR-91 and SR-241 rights-of-way, as well as exiting SR-91 and SR-241 to access frontage roads leading to necessary observation points. Access to the County parcel was provided by a County Park Ranger and Nature Conservancy staff. At the observation points, each biologist investigated the roadside areas on foot or with the aid of binoculars if foot access was not possible.

The plant communities identified in the BSA are shown in Appendix A, Biological Resources Map.

2.2.3. Botanical Surveys

A full season of focused botanical surveys within the BSA was conducted by LSA Biologist Stan Spencer, Ph.D. on May 10 and June 28, 2011. A late season botanical survey was conducted by Stan Spencer, Ph.D. and Elizabeth Hohertz on August 22, 2013 and early season focused botanical surveys were conducted by Stan Spencer, Ph.D. on May 15, 16, 20, and 27, 2014, which completed a full season plant survey. In addition, the identification and mapping of the scattered coast live oak trees at the SR-241/SR-91 junction was completed using aerial imagery (Bing maps) followed by

a ground truthing visit in the summer of 2014. Furthermore, because the slope grading area south of SR-91 was added following the 2014 blooming season, focused surveys results from 2001 and 2003 were cited from the Mountain Park Specific Plan Amendment Draft EIR (BonTerra 2005). However, on March 17 and 19, 2015, a botanical survey of the recently added slope area south of SR-91 was conducted by Stan Spencer, Ph.D.

Focused special-interest plant survey timing considered the flowering season for native plant species, which varies and is dependent on the frequency, duration, and seasonal timing of rainfall events, moisture availability, and soil and air temperatures. The potential for detection of plant species is variable from month to month and year to year. Therefore, the timing of the surveys was selected to correspond with the optimal time for detecting special-interest plants in the BSA. Elevation in the survey area varies from approximately 370 ft above mean sea level (amsl) to 1,570 ft amsl. The topography is moderately rolling adjacent to SR-91, with steep canyons and hillsides from the Santa Ana Mountains bordering SR-241.

Special-status plant species that are listed by the federal or State resource agencies and those listed by the CNPS as CRPR 1B, 2, 3, and 4 with potential of occurring within the BSA were the focus of the surveys. Any plant species that is *only* a CRPR 4 is not included in the special-status table unless it was observed in the BSA. Per the CNPS, a CRPR 4 plant is of limited distribution or infrequent throughout a broader area in California and their status should be monitored (a watch list species). The surveys were floristic in nature, and all vascular plant species encountered in the BSA were identified, not just special-interest plants. Plant nomenclature follows that of *The Jepson Manual, Higher Plants of California* (Hickman, J.C., ed. 1993). All plant species observed during the 2011, 2013, and 2014 surveys were noted and are listed in Appendix B, Vascular Plant Species Observed.

2.2.4. Wildlife Surveys

2.2.4.1. Focused Coastal California Gnatcatcher Surveys

LSA Biologists Richard Erickson, Eric Krieg, and Ingri Quon conducted USFWS protocol surveys for CAGN between April 14 and June 9, 2011, pursuant to Federal Fish and Wildlife Permit TE-777965-9 (April 8, 2008–April 7, 2012) and a letter permit from the CDFW attached to Scientific Collecting Permit SC-000777 covering conditions for research on listed birds (July 23, 2009–April 12, 2012). Surveys were conducted in accordance with protocol pursuant to permit requirements. A copy of the Coastal California Gnatcatcher Survey Results letter report is included in

Appendix D. Appendix C references the animal species detected, primarily during the focused CAGN surveys.

2.2.4.2. Bat Habitat Suitability Assessment

To ascertain the potential for bat foraging and roosting activity within the BSA and immediate vicinity, a bat habitat suitability assessment was conducted. The fieldwork for the habitat assessment was conducted on November 30, 2011, by LSA senior biologist and bat specialist Jill Carpenter, with assistance from senior biologist Ingri Quon. Three bridge structures at the northern end of SR-241 near SR-91 within the BSA were evaluated. Other structures that contain bat roosting habitat are present within the BSA; however, these were not surveyed as part of this assessment since they were previously evaluated for the presence of bat roosting habitat by LSA in 2006, and nighttime surveys confirming bat roosting at these locations were performed by LSA in June 2008. Based upon those survey results, the presence of day-roosting bats is assumed at these structures, which include various expansion joints in the SR-241/SR-91 junction flyovers, a double-box culvert west of Coal Canyon Undercrossing, and a triple-box culvert beneath SR-91 at Gypsum Canyon Road.

A copy of the Bat Habitat Suitability Assessment Memorandum is included as Appendix E. Suitable bat habitat identified in the BSA is shown in Appendix A, Biological Resources Map.

2.2.5. Jurisdictional Delineation

The fieldwork for this evaluation along SR-241, the southwest portions of the SR-241/SR-91 junction, the delineation of the Gypsum Canyon drainage, and verification of previously delineated drainages along SR-91 was conducted by LSA biologists Ingri Quon and Lonnie Rodriguez on December 3, 2013. The fieldwork for the BSA along SR-91 was conducted by LSA biologists Elizabeth Hohertz, Stan Spencer, Ph.D., and Wendy Davis, with assistance from Nicole West, Laura Rocha, Kristen Yee, Sarah Barrera, and Angela Roundy in the latter half of 2008. As mentioned above, these areas were revisited in December 2013 to verify the conditions were the same as in 2008. Furthermore, drainage Feature 5 was revisited and delineated by Stan Spencer, Ph.D., on March 19, 2015. Please refer to Table 2.1 for survey dates.

Table 2.1: Surveys Conducted and Personnel Utilized

Survey Type	Dates	Consultant Biologist(s)
Bat Habitat Suitability Assessment	November 30, 2011	Jill Carpenter and Ingri Quon
Biological Reconnaissance Survey, Plant Community Mapping	May 10, 2011	Stan Spencer, Ph.D.
Botanical Surveys	2001, 2003 (SR-91 slope grading area); May 10 and June 28, 2011; August 22, 2013; May 15, 16, 20, and 27, 2014; March 17 and 19, 2015	PCR staff (SR-91 slope grading area)[1] Stan Spencer, Ph.D., and/or Elizabeth Hohertz
Oak and Sycamore Tree Mapping	Summer 2014	Ingri Quon
Focused Coastal California Gnatcatcher Surveys	April 14; May 2, 10, and 26; and June 2 and 9, 2011	Richard Erickson, Eric Krieg, and Ingri Quon
Jurisdictional Delineation	July 26 and 31, August 5, September 19 and 30, October 2 and 3, December 10 and 11, 2008; December 3, 2013; March 19, 2015	Elizabeth Hohertz, Kristen Yee, Angela Roundy, Laura Rocha, Nicole West, Stan Spencer, Ph.D., Wendy (Walters) Davis, and Sarah Barrera; Ingri Quon and Lonnie Rodriguez; Stan Spencer, Ph.D.

[1] In 2001 and 2003, PCR staff conducted botanical surveys in an area overlapping the slope grading area south of SR-91 (BonTerra 2005). This area outside of the Caltrans right-of-way, within County of Orange property, was not originally part of the BSA for the SR-241/SR-91 Express Lanes Connector Project.

BSA = Biological Study Area
Caltrans = California Department of Transportation
SR-91 = State Route 91
SR-241 = State Route 241

Areas of potential jurisdiction were evaluated according to USACE, CDFW, and RWQCB criteria. The boundaries of the potential jurisdictional areas were observed in the field and mapped on a series of aerial photographs (for each scale, 1 inch = approximately 200 ft), which together show the entire BSA. Measurements of federal and State jurisdictional areas mapped during the course of the field investigation were determined by a combination of direct measurements taken in the field and measurements taken from the aerial photographs.

Areas supporting species of plant life potentially indicative of wetlands were evaluated according to the wetland delineation procedures described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0, *Regional Supplement*, USACE 2008) and the USACE 1987 *Wetland Delineation Manual* (*1987 Manual*, Environmental Laboratory 1987). Representative sample plots (soil pits) would have been dug in the field in those areas where wetland jurisdiction was in question or needed to be confirmed. However, soils were dry and sandy, so complete sample plot data were not recorded. Hydrological

conditions, including any surface inundation, saturated soils, groundwater levels, and/or other wetland hydrology indicators, were noted. General site characteristics were also noted.

The Jurisdictional Delineation Report for the Proposed Project is provided in Appendix F and includes some results from the Jurisdictional Delineation Report for the SR-91 CIP (LSA 2009) because the two project boundaries overlap. The slope grading area (added in November 2014) on County land near drainage Feature 6 was investigated and Feature 6 was delineated for the Proposed Project on March 19, 2015. Findings are described in Chapter 5, Tables 5-1 and 5-2, and in the Jurisdictional Delineation Report in Appendix F.

2.3. Personnel and Survey Dates

Table 2.1 lists the surveys completed and the personnel utilized for the surveys.

2.4. Agency Coordination and Professional Contacts

- All of the SR-241 and nearly all of the SR-91 portions of the Project Area were described and analyzed as part of the ETC Final EIR and Final EIS. A Biological Opinion was received from the USFWS for this project on July 6, 1994 (No. 1-6-94-F-17; Appendix G).
- Prior to Project Initiation, Valarie McFall, TCA Director of Environmental Planning, emailed Jonathan Snyder, USFWS Division Chief, on October 25, 2010, regarding the potential to create coastal sage scrub (CSS) and cactus scrub restoration on 15 ac of property in the City of Irvine (Strawberry Farms) just south of the Strawberry Farms Golf Course near the Sand Canyon Reservoir. On February 9, 2011, Mr. Snyder responded (USFWS reference: FWS-OR-11B0165-11TA0284) favorably, subject to review and approval of a restoration plan, that the area could conceptually be used to offset impacts to CSS and cactus scrub associated with future F/ETCA projects in the County of Orange. A restoration plan was prepared and USFWS approved (NewField 2011).
- On May 19 and June 15, 2011, September 9, 2013, and December 1, 2014, a preliminary list of threatened or endangered species that may occur in the BSA was obtained from the USFWS IPaC online database resource. A USFWS official species list was obtained on January 22, 2014, and February 2, 2015 (USFWS 2015b). Appendix H contains the official species list, which includes critical habitat within the BSA. Per Caltrans NES guidelines, IPaC lists are valid for 180 days.

- Caltrans is the lead agency for Section 7 consultation with the USFWS. Caltrans will submit this NES and a BA to initiate Section 7 consultation with the USFWS in coordination with TCA.
- On January 27, 2014, Valarie McFall of F/ETCA spoke with Jonathan Snyder of the USFWS regarding the consultation process for the Proposed Project. The ETC Biological Opinion (No. 1-6-94-F-17; Appendix G) was originally issued to the FHWA, and NEPA responsibilities are now assigned to Caltrans; therefore, Caltrans will send a letter to the USFWS requesting Section 7 consultation. The consultation will be for the entire project and will result in an amendment to the above-mentioned Biological Opinion, or a new Biological Opinion, addressing the revisions to the details of the Project Description. There will likely not be a need for additional take authorization for listed species since the Proposed Project does not change or increase the effect to the listed species included in the original Biological Opinion. If necessary, the USFWS can grant take authorization to Caltrans since the original Biological Opinion was issued to the FHWA.
- On July 23, 2015, per a September 22, 2015, email from Kedest Ketsela of Caltrans to Ingri Quon of LSA, Sally Brown of the USFWS brought the following issues to TCA in an email dated July 23, 2015: (1) coastal California gnatcatcher occurrences and designated critical habitat for this species are in the Project Impact Area and Vicinity; (2) Braunton's milk-vetch occurrences and designated critical habitat for Braunton's milk-vetch are adjacent to the Project Area; (3) Santa Ana sucker and designated critical habitat for Santa Ana sucker are north of the SR-91 portion of the Project Area (USFWS 2005b); and (4) the Proposed Project is thought to extend farther east than originally proposed for coverage by the original Biological Opinion and the incidental take authorization pursuant to the HCP. (Note that the entire footprint of the ETC was included in the original Central/Coastal NCCP/HCP and has thus been fully mitigated.)

2.5. Limitations That May Influence Results

The collection of biological field data is normally subject to environmental factors that cannot be controlled or reliably predicted. Consequently, the interpretation of field data must be conservative (i.e., biased toward protecting the biological resource) and consider the uncertainties and limitations necessarily imposed by the environment. However, due to the experience and qualifications of the consultant biologists involved in the surveys, this limitation is not expected to severely influence the results or substantially alter the findings.

The late season botanical survey was conducted in August 2013 and the complementary early season survey was conducted in May 2014. An early season botanical survey was conducted on the County parcel in March 2015. These years were subject to atypical weather factors involving below-average rainfall; therefore, some species or portions of a plant population or a specific species may not emerge suitably for detection or identification during surveys. However, because most of the area had been surveyed for plants in 2011 and because there were no sensitive plant species expected to occur in the BSA with more than a low probability, and due to the experience and qualifications of the consultant biologists involved in the surveys, this limitation is not expected to severely influence the results or substantially alter the findings.

The results of the biological resource surveys are limited where access was not available due to unsafe terrain. In these cases, binoculars were used to identify biological resources.

Although information was gathered from the entire BSA, Proposed Project impacts discussed in this report are considered for biological resources that fall within the Project footprint of the Build Alternative and in adjacent areas that may be directly or indirectly impacted by the Proposed Project. Therefore, biological resources may be found in the BSA, but not be impacted by the Proposed Project.

The BSA was limited to within the SR-241 and SR-91 right-of-way except for the slope south of SR-91, approximately 3,600 ft west of Coal Canyon Undercrossing. This slope area, on County land (APN 085-071-56) was surveyed for biological resources on March 17 and 19, 2015. The survey specifically addressed vegetation mapping, a focused botanical survey, a general wildlife survey, and a jurisdictional delineation of the area, which included drainage Feature 5. Survey conditions (e.g., weather, season) were favorable; therefore, conditions are not expected to limit the results.

Chapter 3. Results: Environmental Setting

3.1. Description of the Existing Biological and Physical Conditions

As described in *The Jepson Manual, Higher Plants of California* (Hickman 1993), the BSA is located within the South Coast subregion of the Southwestern California region of the California Floristic Province. The South Coast subregion is characterized by valleys and small hills extending from the coast inland to the foothills of the Transverse and Peninsular Mountain ranges. Much of the area is intensively developed for urban, suburban, and agricultural uses. The natural vegetation of the subregion consists primarily of chaparral, coastal sage scrub (CSS), annual grasslands, and some riparian scrub and woodland. Much of the natural vegetation occurs in scattered, often fragmented patches on hills or in other areas not easily developed.

3.1.1. Study Area

The Project Area lies within the cities of Anaheim, Yorba Linda, and Corona, and counties of Orange and Riverside, California. There are two arterial roadway corridors, La Palma Avenue and Santa Ana Canyon Road, within the Project Vicinity that are parallel to SR-91. Featherly Regional Park, the Santa Ana River, and the Santa Ana River Trail border the north side of SR-91. To the immediate south of SR-91 and west of SR-241, the area is predominantly bordered by residential properties. To the east of SR-241 and south of SR-91, the area consists of undeveloped areas. Farther south of SR-91, east and west of SR-241, the area is open space (Irvine Ranch National Natural Landmark).

The Project Area is almost entirely within the NCCP/HCP Plan Area and, therefore, the majority of effects have been mitigated through TCA's participation in the NCCP/HCP. This area includes SR-241 and the area south of the center lanes of westbound SR-91; therefore, the non-NCCP/HCP Plan Area portion of the Project Area is the area north of the center lanes of westbound SR-91 and the vegetation communities north of these lanes (Appendix A, Sheets 5 through 9). A very small portion of an NCCP/HCP Existing Use Area intersects the eastern end of the Project Area along SR-91 and Coal Canyon Undercrossing. The Project Area is not located within any portions of the NCCP/HCP Reserve, but SR-241 passes between two parts of the Reserve in the Windy Ridge Wildlife Undercrossing area, and this wildlife

crossing is designed to functionally link these two NCCP/HCP Reserve areas with the Coal Canyon Ecological Reserve,[1] Rancho Lomas de Santiago,[2] and the Cleveland National Forest.[3]

The BSA is approximately 8.7 total linear miles. Approximately 3 linear miles are along SR-241, from south of Windy Ridge Wildlife Undercrossing, north to the SR-24/ SR-91 junction. Approximately 5.7 mi are along SR-91 from west of the SR-241/SR-91 junction east to just east of Green River Road (Appendix A). The BSA is located on the USGS *Black Star Canyon, California* 7.5-minute series topographical quadrangle.

The BSA is within F/ETCA and Caltrans right-of-way with the exception of a proposed slope grading area (approximately 5 ac) along the south side of SR-91, which extends into County-owned land.

3.1.2. Physical Conditions

There are a variety of plant communities located within the BSA, including CSS, chaparral, nonnative grassland, ruderal vegetation, ornamental vegetation, and developed areas.

Elevations range from approximately 370 to 1,570 ft amsl. The topography is moderately rolling adjacent to SR-91, with steep canyons and hillsides from the Santa Ana Mountains bordering the southernmost portion of the BSA. Canyons and tributary washes associated with the Santa Ana River also occur throughout the BSA.

3.1.3. Biological Conditions in the Biological Study Area

The following sections summarize the principal characteristics, general locations, and total acreages of the plant communities, invasive plant species, general wildlife, and aquatic resources within the BSA. Representative site photographs of the BSA are depicted in Appendix I. Appendix A includes the biological resource maps, which indicate the existing plant communities within the BSA. Appendix B references the vascular plant species observed. Appendix C references the animal species observed, primarily during the focused CAGN surveys.

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1 The Coal Canyon Ecological Reserve is managed by the CDFW.

2 Rancho Lomas de Santiago is managed by public and private entities.

3 The Cleveland National Forest is managed by the United States Department of Agriculture, Forest Service.

3.1.3.1. Plant Communities and Habitat Types

Six plant communities were identified within the BSA and are shown on the biological resources figure in Appendix A. Table 3.1 lists the acreages of each of the plant communities present within the BSA boundary.

Table 3.1: Plant Communities Occurring within the Project Area

Plant Community	Total Acres
Scrub and Chaparral Habitats	
Coastal Sage Scrub	54.10
Chaparral	14.38
Woodland Habitat	
Coast Live Oak Woodland	0.68
Disturbed Habitats	
Ruderal Vegetation (includes coast live oak [0.26 acres] and Western Sycamore [0.40 acres] trees)	34.13
Nonnative Grassland	22.06
Developed Areas (includes Bare Ground 1.29 acres)	162.19
Total	**287.54**

Coastal Sage Scrub

CSS occurs throughout the entire BSA. Species within this plant community include California sagebrush (*Artemisia californica*), coastal deerweed (*Lotus scoparius* var. *scoparius*), California buckwheat (*Eriogonum fasciculatum*), chaparral yucca (*Hesperoyucca whipplei*; formerly *Yucca whipplei*), California encelia (*Encelia californica*), brittlebush (*Encelia farinosa*), and California poppy (*Eschscholzia californica*).

Chaparral

The chaparral plant community primarily occurs in the eastern portion of the BSA along SR-91 and east of the SR-91/SR-241 junction. Within the BSA, chaparral is often interspersed with CSS and coast live oak woodland plant communities. This is because chaparral is typically a transitional habitat to higher-elevation plant communities in mountain ranges. Species within this plant community include laurel sumac (*Malosma laurina*), coast live oak (*Quercus agrifolia*), California sagebrush, California buckwheat, and chaparral yucca.

Nonnative Grassland

Nonnative grassland occurs throughout the BSA. This plant community consists predominantly of ruderal, nonnative grassland species with scattered native forbs. Plants within this habitat type include common horseweed (*Conyza canadensis*), fascicled tarweed (*Deinandra fasciculata*), tocalote (*Centaurea melitensis*), telegraph

weed (*Heterotheca grandiflora*), Bermuda grass (*Cynodon dactylon*), wild oat (*Avena* spp.), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

Ruderal Vegetation

Ruderal vegetation occurs throughout the BSA. This plant community consists predominantly of ruderal and unmaintained or escaped ornamental vegetation. While most of the ruderal vegetation in the BSA consists of nonnative grasses, it is differentiated from nonnative grassland due to the loss of a native seed bank, although some native "weedy" species may be present. Plants within this habitat type include Peruvian pepper tree (*Schinus molle*), tocalote, bull thistle (*Cirsium vulgare*), telegraph weed, perennial sow-thistle (*Sonchus arvensis*), field mustard (*Brassica rapa*), shortpod mustard (*Hirschfeldia incana*), Bermuda grass, wild oat, and foxtail chess.

In addition, coast live oak trees and western sycamore trees of various sizes are scattered within the SR-241/SR-91 junction area. These trees may be used as a resource by wildlife and are considered important to Caltrans and the CDFW. Oak and sycamore trees are discussed further in Section 4.1.1.

Developed Areas

This "habitat" occurs throughout the BSA. Within the BSA, this habitat consists of nonporous surfaces such as existing paved roads and highways. Where vegetation is present, it consists of ornamental and ruderal vegetation. Where vegetation is not present, it consists of bare ground (e.g., regularly disturbed ground, pullouts).

3.1.3.2. Common Animal Species

Diverse wildlife species including special-status species are expected within the BSA due to the mosaic of habitats, which includes available water from the jurisdictional Santa Ana River and perennial (culvert outfall) water sources for wildlife. Appendix C includes the list of observed and detected wildlife species.

Other animal species not detected, but expected within the BSA or immediate vicinity include, but are not limited to the following: California treefrog (*Pseudacris cadaverina*), western toad (*Anaxyrus boreas*), western fence lizard (*Sceloporus occidentalis*), western skink (*Plestiodon skiltonianus*), western blind snake (*Leptotyphlops humilis*), southern alligator lizard (*Elgaria multicarinata*), California legless lizard (*Anniella pulchra*), gophersnake (*Pituophis catenifer*), western rattlesnake (*Crotalus oreganus*), white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), red tailed-hawk (*Buteo*

jamaicensis), killdeer (*Charadrius vociferus*), barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), hummingbird species, Nuttall's woodpecker (*Picoides nuttallii*), northern flicker (*Colaptes auratus*), Pacific-slope flycatcher (*Empidonax difficilis*), ash-throated flycatcher (*Myiarchus cinerascens*), northern rough-winged swallow (*Stelgidopteryx serripennis*), cliff swallow (*Petrochelidon pyrrhonota*), barn swallow (*Hirundo rustica*), house wren (*Troglodytes aedon*), western bluebird (*Sialia mexicana*), European starling (*Sturnus vulgaris*), orange-crowned warbler (*Oreothlypis celata*), common yellowthroat (*Geothlypis trichas*), yellow-rumped warbler (*Setophaga coronata*), spotted towhee (*Pipilo maculatus*), California towhee (*Melozone crissalis*), white-crowned sparrow (*Zonotrichia leucophrys*), black-headed grosbeak (*Pheucticus melanocephalus*), brown-headed cowbird (*Molothrus ater*), Bullock's oriole (*Icterus bullockii*), lesser goldfinch (*Spinus psaltria*), California ground squirrel (*Spermophilus beecheyi*), bobcat (*Lynx rufus*), striped skunk (*Mephitis mephitis*), and mule deer (*Odocoileus hemionus*).

3.1.3.3. Aquatic Resources

The BSA is adjacent to the Santa Ana River, which runs parallel to SR-91. The Santa Ana River and area north of SR-91 is within the 100-year floodplain (Zone AE) and Regulatory Floodway of the Santa Ana River. However, no Project improvements would occur within Zone AE and the Project is not anticipated to encroach into the 100-year floodplain of the Santa Ana River. A small portion of the Proposed Project along SR-241 is within Flood Zone X (500-year floodplain). However, as discussed in the Location Hydraulic Study for the Proposed Project, the portions of the Project within Zone X do not include major roadway alterations or any cut or fill. The work in these areas is limited to restriping of existing pavement along the SR-91 lanes and a shift of the median barrier to accommodate the alignment of the Proposed Project.

The drainages (Features 1 through 8) consist of a variety of man-made and natural structures such as asphalt swales, v-ditches, riprap drainages, and natural, earthen features such as Gypsum Canyon Creek. Some drainages are considered jurisdictional since they flow into the Santa Ana River. About half of the eight drainage features contain no vegetation (Features 1, 7, and 8), while others (Features 2, 3, and 5) have sparse vegetation consisting of California sagebrush, coyote bush (*Baccharis pilularis*), mulefat (*Baccharis salicifolia*), thick-leaved yerba santa (*Eriodictyon crassifolium*), and Mediterranean tamarisk (*Tamarix ramosissima*). Two drainage features (Features 4 and 6) have small amounts of moderately dense riparian habitat containing mulefat, willows (*Salix* spp.), western cottonwood (*Populus fremontii* ssp. *fremontii*), and other native species such as laurel sumac.

The vegetated drainages provide some potential habitat for special-status species, but are not expected to have sufficient breeding habitat for federally listed riparian species such as the western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), least Bell's vireo (*Vireo bellii pusillus*), or southwestern willow flycatcher (*Empidonax traillii extimus*).

3.1.3.4. Invasive Species

The California Invasive Plant Council (Cal-IPC) Inventory Database for the Southwest floristic province lists the following observed nonnative species with an invasive rating of moderate to high: tree of heaven **(***Ailanthus altissima*), giant reed (*Arundo donax*), Australian saltbush (*Atriplex semibaccata*), slender wild oat (*Avena barbata*), common wild oat (*Avena fatua*), ripgut grass (*Bromus diandrus*), black mustard (*Brassica nigra*), red brome (*Bromus madritensis* ssp. *rubens*), cheat grass (*Bromus tectorum*), Sahara mustard (*Brassica tournefortii*), Italian thistle (*Carduus pycnocephalus*), garland chrysanthemum (*Chrysanthemum coronarium*), Bermuda grass (*Cynodon dactylon*) sweet fennel (*Foeniculum vulgare*), gazania (*Gazania linearis*), shortpod mustard (*Hirschfeldia incana*), broad-leaved peppergrass (*Lepidium latifolium*), Italian ryegrass (*Lolium multiflorum*), tree tobacco (*Nicotiana glauca*), Bermuda buttercup **(***Oxalis pes-caprae*), African fountain grass (*Pennisetum setaceum*), london rocket (*Sisymbrium irio*), saltcedar (*Tamarix ramosissima*), rattail fescue (*Vulpia myuros* var. *myuros*), and Mexican fan palm (*Washingtonia robusta*).

3.1.3.5. Habitat Connectivity

According to *The Jepson Manual, Higher Plants of California* (Hickman 1993), the BSA is located within the South Coast subregion and contains a variety of habitats including chaparral, coastal sage scrub (CSS), annual grassland, riparian scrub, and woodland. These habitats occur in scattered or fragmented hill patches or in undeveloped areas. While the majority of the BSA is urban and not suitable for the movement of wildlife species, drainage Features 3 through 6, culverts and drainages that flow indirectly or directly into the Santa Ana River, contain potentially suitable habitat for the movement of several bird, reptile, amphibian, and mammal (such as bats) species of concern.

Roads often disrupt wildlife movement and result in habitat fragmentation. Several SR-241 crossings, including Windy Ridge Wildlife Undercrossing (Appendix A, Sheet 1 of 9), pass under the median of the SR-241. This structure allows the SR-241 median to be widened slightly without substantially impacting the openness of the crossing for large mammal (coyote, mountain lion, bobcat, and mule deer) movement

under the bridge structure. Similarly, Gypsum Canyon, Coal Canyon, and B Canyon have drainages and provide wildlife linkages (CDFW 2015) and pass under SR-91 through large box culvert structures. These culverts would not be altered by the Proposed Project.

3.2. Regional Species and Habitats and Natural Communities of Concern

The Santa Ana River watershed is the largest in Southern California. The Santa Ana River is an important aquatic resource, covering over 388.5 square kilometers (km) (150 square miles [sq mi]). The river begins in the San Bernardino Mountains, crossing San Bernardino, Riverside, and Orange Counties before flowing into the Pacific Ocean. The BSA supports a mosaic of native plant communities and developed areas. Within the BSA, SR-91 and SR-241 bisect a continuous series of open spaces that extend from the Cleveland National Forest and Santa Ana Mountains in the south to the Puente-Chino Hills area in the north, terminating at Highway 1 (Pacific Coast Highway) in Los Angeles County. Bridges and culvert crossings such as those at Gypsum and Coal Canyons, which convey also water via culverts to the Santa Ana River under SR-91, can provide important wildlife linkages for animals passing from the Santa Ana Mountains to the Santa Ana River and the Puente-Chino Hills beyond. The Windy Ridge Wildlife Undercrossing beneath SR-241 at the southern section of the BSA allows wildlife to move under SR-241 across the western extant of the Santa Ana Mountains.

Information based on the literature review for the sensitive species within the BSA is presented below. There is only one regional habitat of concern that exists in the BSA, the CSS plant community, which is addressed in Chapter 4. Species that require additional surveys and analysis are addressed in Chapter 4.

3.2.1. Plants

The BSA supports suitable habitat for a variety of special-status plant species. After a literature review, it was determined that a total of 40 special-status plant species have the potential to occur on or within the vicinity of the BSA. Seven of these special-status plant species are federal- and/or State-listed threatened, endangered, or candidate species. Any plant species that is *only* a CRPR 4 is not included in the table unless it was observed in the BSA. Per the CNPS, CRPR 4 plants are of limited distribution or infrequent throughout a broader area in California and their status should be monitored (a watch list species). Table 3.2 summarizes further information on these species, including status, habitat requirements, and potential for occurrence.

Table 3.2: Listed, Proposed, and Plant Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat Present/ Absent	Rationale
Chaparral sand-verbena	*Abronia villosa* var. *aurita*	CRPR: 1B.1	Annual herb. Occurs in coastal scrub and chaparral in sandy soils. From 260 to 5,250 ft in elevation.	January–August	HP	Limited habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Munz's onion	*Allium munzii*	FE, ST CRPR: 1B.1	Perennial bulbiferous herb. Occurs in chaparral, coastal scrub, cismontane woodland, pinyon-juniper woodland, valley, and foothill grassland usually in heavy clay soils. From 900 to 3,210 ft in elevation.	March–May	HP	Limited habitat for this species is present on site. Not observed during 2011 or 2014 botanical surveys.
Braunton's milk-vetch	*Astragalus brauntonii*	FE CRPR: 1B.1	Considered a limestone endemic and dependent on fire. Usually on sandstone with carbonate layers following fire but may follow other disturbance and occur on stiff gravelly clay soils over granite. Typically associated with the fire-dependent chaparral habitat on limestone and on down-wash sites. From 12 to 1,920 ft in elevation.	February–July	A (CH is adjacent)	No suitable habitat for this species is present on site, but critical habitat is adjacent. Not observed during 2011, 2013, or 2014 botanical surveys.
Coulter's saltbush	*Atriplex coulteri*	CRPR: 1B.2	Perennial herb. Occurs in coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland usually in alkaline or clay soils. From 10 to 1,510 ft in elevation.	March–October	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
South Coast saltscale	*Atriplex pacifica*	CRPR: 1B.2	Alkali soils in coastal sage scrub, playas, coastal bluff scrub, coastal dunes, and chenopod scrub below 600 ft elevation, and perhaps formerly up to about 1,400 ft in Los Angeles County. In California, known from the Channel Islands and mainland Los Angeles, San Diego and Orange Counties. Also occurs in Mexico. Believed extirpated from Ventura County.	March–October	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Davidson's saltscale	*Atriplex serenana* var. *davidsonii*	CRPR: 1B.2	Alkaline soils in scrub and herbaceous communities. From 35 to 660 ft in elevation.	April–October	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Malibu baccharis	*Baccharis malibuensis*	CRPR: 1B.1	Deciduous shrub. Occurs in chaparral, cismontane woodland, and coastal scrub, on Conejo volcanic soils, often in disturbed areas. From 490 to 850 ft in elevation.	August	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Thread-leaved brodiaea	*Brodiaea filifolia*	FT, SE CRPR: 1B.1	Bulbiferous perennial herb. Occurs primarily in vernal pools, but also found in chaparral, cismontane woodlands, coastal scrub, playas, and valley and foothill grasslands, usually in clay soils. From 115 to 4,003 ft in elevation.	March–June	HP	Marginally suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.

Table 3.2: Listed, Proposed, and Plant Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat Present/ Absent	Rationale
Intermediate mariposa lily	*Calochortus weedii* var. *intermedius*	CRPR: 1B.2	Perennial bulbiferous herb. Occurs in chaparral, coastal scrub, and valley and foothill grassland. Often in dry, rocky soils. From 395 to 2,805 ft in elevation.	May–July	HP	Suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Lucky morning-glory	*Calystegia felix*	CRPR: 3.1	Wetland and marshy areas, sometimes alkaline, sometimes artificially watered, from 100 to 700 ft elevation. All of the known extant occurrences are associated with well-watered landscaping on recently completed industrial, commercial, and residential developments in the City of Chino within a historical area of artesian springs. Older collections are from areas that are now heavily urbanized areas (including one from South Los Angeles and another from Pico Rivera in Los Angeles County).	March–Sept	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Lewis' evening-primrose	*Camissoniopsis lewisii*	CRPR: 3.0	Sandy or clay areas in coastal scrub, grassland, and woodland below 1,000 ft elevation. In California, known only from Los Angeles and San Diego Counties. Believed extirpated from the County of Orange. Also occurs in Mexico.	March-June	HP	Marginally suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Southern tarplant	*Centromadia parryi* ssp. *australis*	CRPR: 1B.1	Annual herb. Occurs in vernal pools, margins of marshes and swamps, and vernally mesic valley and foothill grasslands, sometimes with saltgrass on alkaline soils. Up to 1,400 ft in elevation.	May–November	HP	Limited habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Smooth tarplant	*Centromadia pungens* ssp. *laevis*	CRPR: 1B.1	Annual herb. Occurs in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland on alkaline soils. Up to 1,575 ft in elevation.	April–September	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	FC, SE CRPR: 1B.1	Annual herb. Occurs in coastal scrub in sandy soils. From 450 to 3,660 ft in elevation.	April–July	HP	Limited habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Long-spined spineflower	*Chorizanthe polygonoides* var. *longispina*	CRPR: 1B.2	Annual herb of clay soils in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland at 100 to 4,800 ft elevation. Occurs in Orange, Riverside, and San Diego Counties.	April–July	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
White-bracted spineflower	*Chorizanthe xanti* var. *leucotheca*	CRPR: 1B.2	Sandy to gravelly places in Mojave desert scrub, pinyon and juniper woodland, or coastal scrub at 980 to 3,900 ft elevation. Reported from Los Angeles, Riverside, and San Bernardino Counties.	April-June	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.

Table 3.2: Listed, Proposed, and Plant Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat Present/ Absent	Rationale
Slender-horned spineflower	*Dodecahema leptoceras*	FE, SE CRPR: 1B.1	In the Vail Lake area, occurs in gravel soils of Temecula arkose deposits in openings in chamise chaparral. In other areas, occurs in sandy cobbly riverbed alluvium in alluvial fan sage scrub (usually late seral stage), on floodplain terraces and benches that receive infrequent overbank deposits from generally large washes or rivers, where it is most often found in shallow silty depressions dominated by leather spineflower (*Lastarriaea coriacea*) and other native annual species, and is often associated with cryptogamic soil crusts composed of bryophytes, algae and/or lichens. Occurs at 200 to 2,500 ft elevation. Known only from Los Angeles, Riverside, and San Bernardino Counties, California.	April–June	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Santa Monica dudleya	*Dudleya cymosa* ssp. *ovatifolia*	CRPR: 1B.1	Granitic, quartzite, or (rarely) limestone outcrops, in pebble plains, pinyon-juniper woodland, and upper montane coniferous forest at 4,200 to 8,500 ft elevation. Known only from San Bernardino County.	April–June	A	Site is not within elevation range of the species. Not observed during 2011, 2013, or 2014 botanical surveys.
Many-stemmed dudleya	*Dudleya multicaulis*	CRPR: 1B.2	Perennial herb. Occurs in chaparral, coastal scrub, valley and foothill grassland usually in heavy, often clayey soils. From 45 to 2,370 ft in elevation.	April–July	HP	Suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Santa Ana River woollystar	*Eriastrum densifolium* ssp. *sanctorum*	FE, SE CRPR: 1B.1	Perennial herb. Occurs in chaparral and coastal scrub in sandy or gravelly soils on river floodplains or terraced fluvial deposits. From 273 to 1,830 ft in elevation.	May–September	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Tecate cypress	*Hesperocyparis forbesii*	CRPR: 1B.1	Perennial evergreen tree. Occurs in closed-cone coniferous forest and chaparral. From 835 to 4,920 ft in elevation.	N/A	HP	Limited habitat for this species is present on site. Not observed during 2011 or 2014 botanical surveys.
Gowen cypress	*Hesperocyparis goveniana*	FE CRPR: 1B.2	Usually found in sandy soils on coastal terraces, closed-cone coniferous forests and maritime chaparral (sometimes with Monterrey and Bishop Pines) from 100 to 1,000 ft. Endemic to California, only known from Monterey County.	N/A	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Vernal barley	*Hordeum intercedens*	CRPR: 3.2	Annual herb. Occurs in coastal dunes, coastal scrub, valley and foothill grassland, and vernal pools, usually in saline flats and depressions. From 15 to 3,000 ft in elevation.	March–June	HP	Suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.

Table 3.2: Listed, Proposed, and Plant Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat Present/ Absent	Rationale
Southern California black walnut	*Juglans californica*	CRPR: 4.2	Perennial deciduous tree, usually with several trunks. Locally common below 4,500 ft elevation on slopes and in canyons. Known from Orange and western cismontane San Bernardino County to Ventura County.	March–August	HP, O	Suitable habitat for this species is present on site. Observed during 2011, 2013, or 2014 botanical surveys.
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	CRPR: 1B.1	Annual herb occurring in coastal salt marshes and swamps, playas, valley and foothill grasslands, sinks, and vernal pools up to 4,000 ft in elevation.	February–June	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Heart-leaved pitcher sage	*Lepechinia cardiophylla*	CRPR: 1B.2	Annual herb. Occurs in coastal scrub and chaparral on dry soils. From 1,800 to 4,500 ft in elevation.	January–July	A	Site is not within elevation range of the species. Not observed during 2011, 2013, or 2014 botanical surveys.
Jokerst's monardella	*Monardella australis* ssp. *jokerstii*	CRPR: 1B.1	Steep scree or talus slopes between breccia and secondary alluvial benches along drainages and washes, in lower montane coniferous forest and chaparral at 4,430 to 5,740 ft. Known only from the San Gabriel Mountains of San Bernardino County, California.	July–September	A	Site is not within elevation range of the species. No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Intermediate monardella	*Monardella hypoleuca* ssp. *intermedia*	CRPR: 1B.3	Usually understory often found in steep, brushy areas in chaparral, cismontane woodland, and sometimes in lower montane coniferous forests from 660 to 4,100 ft. Endemic to California, only known from Orange, Riverside, and San Diego Counties.	April–September	HP	Marginally suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Felt-leaved monardella	*Monardella hypoleuca* ssp. *lanata*	CRPR: 1B.2	Chaparral and cismontane woodland from 1,000 to 5,200 ft elevation. Known from Peninsular Ranges in Orange and San Diego Counties and from northern Baja California.	June–August	HP	Marginally suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Hall's monardella	*Monardella macrantha* ssp. *hallii*	CRPR: 1B.3	Dry slopes and ridges in openings in chaparral, woodland, and forest at 2,280 to 7,200 ft elevation. Known only from Los Angeles, San Diego, Orange, Riverside, and San Bernardino Counties, California. In the western Riverside County area, known only from higher elevations in the Santa Ana and Aqua Tibia Mountains.	June–August	A	Site is not within elevation range of the species. Not observed during 2011, 2013, or 2014 botanical surveys.
Mud nama	*Nama stenocarpum*	CRPR: 2B.2	Annual to perennial herb. Occurs in marshes and swamps and along lake margins and riverbanks. From 15 to 1,640 ft in elevation.	January–July	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.

Table 3.2: Listed, Proposed, and Plant Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat Present/ Absent	Rationale
Chaparral nolina	*Nolina cismontana*	CRPR: 1B.2	Perennial evergreen shrub. Occurs in chaparral and coastal scrub on sandstone or gabbro soils. From 420 to 3,825 ft in elevation.	May–July	HP	Suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
California beardtongue	*Penstemon californicus*	CRPR: 1B.2	Perennial herb of sandy or granitic soils on stony slopes and shrubby openings; in chaparral, lower montane coniferous forest, pinyon-juniper woodlands. From 3,800 to 7,600 ft in elevation.	May–Aug	A	Site is not within elevation range of the species. Not observed during 2011, 2013, or 2014 botanical surveys.
Allen's pentachaeta	*Pentachaeta aurea* ssp. *allenii*	CRPR: 1B.1	Grasslands and openings in coastal scrub from 250 to 1,700 ft elevation.	March–June	HP	Suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Santiago Peak phacelia	*Phacelia keckii*	CRPR: 1B.3	Closed-cone coniferous forest and chaparral in elevations from 1,800 to 5,200 ft. Known from Orange and Riverside Counties. In the western Riverside County area, this species is scarce and known from higher elevations in the Santa Ana Mountains, Agua Tibia Mountains, and Arroyo Seco Creek.	May–June	A	Site is not within elevation range of the species. Not observed during 2011, 2013, or 2014 botanical surveys.
White rabbit-tobacco	*Pseudognaphalium leucocephalum*	CRPR: 2B.2	Perennial herb. Occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland on sandy and gravelly soils below 7,000 ft elevation.	August–November (July–December)[1]	HP	Marginally suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Coulter's matilija poppy	*Romneya coulteri*	CRPR: 4.2	Occurs in alluvial fan sage scrub, sycamore woodland, coastal sage scrub, and chaparral away from the immediate coast. Dry washes and canyons below 4,000 ft elevation. Santa Ana Mountains to San Diego County.	May–July	HP, O	Suitable habitat for this species is present on site. Observed during the 2013 and 2014 botanical surveys, but not observed during 2011 botanical surveys.
Chaparral ragwort	*Senecio aphanactis*	CRPR: 2B.2	Annual herb. Occurs in chaparral, cismontane woodland, and coastal scrub, usually on drying alkaline flats from 45 to 2,400 ft in elevation.	January–April	HP	Marginally suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
Salt Spring checkerbloom	*Sidalcea neomexicana*	CRPR: 2B.2	Perennial herb. Alkaline springs and brackish marshes. From 30 to 5,020 ft in elevation.	March–June	A	No suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.

Table 3.2: Listed, Proposed, and Plant Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status	General Habitat Description	Flowering Period	Habitat Present/ Absent	Rationale
San Bernardino aster	*Symphyotrichum defoliatum*	CRPR: 1B.2	Perennial rhizomatous herb. Occurs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland, usually near ditches, streams, and springs. From 6 to 6,120 ft in elevation.	July–November	HP	Suitable habitat for this species is present on site. Not observed during 2011, 2013, or 2014 botanical surveys.
CRITICAL HABITAT						
Braunton's Milk-vetch	*Astragalus brauntonii*	F: Designated Critical Habitat	Final critical habitat for Braunton's milk-vetch. Identification number 2011. Designated on December 14, 2006.	N/A	A (CH is adjacent)	One critical habitat polygon occurs on the south side of SR-91 just outside of the BSA.

Status:
- F = Federal Designation
- FC = Federal Candidate
- FD = Federal Delisted
- FE = Federal Endangered
- FPE, FPT = Federal Proposed (Endangered, Threatened)
- FT = Federal Threatened
- SCT = State Candidate Threatened
- SD = State Delisted
- SE = State Endangered
- SEE = State Emergency Endangered
- SFP = State Fully Protected
- SSA = State Special Animal
- SSC = State Species of Special Concern
- ST = State Threatened

Habitat Present/Absent:
- A = No habitat is present and no further work needed.
- CH = The Proposed Project footprint is located within a designated critical habitat unit, but this does not necessarily mean that appropriate habitat is present.
- HP = Habitat is or may be present. The species may be present.
- O = The species was observed in the project t area during a survey.
- P = The species is present. The species was observed or detected in the BSA.

California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) designations:
- CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.
- CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A: Plants presumed extirpated in California, but common elsewhere.
- CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
- CRPR 3: Plants about which more information is needed - a review list.
- CRPR 4: Plants of limited distribution - a watch list.

CNPS Threat Ranks:
- 0.0: No rank designated by the CNPS (added as a placeholder).
- 0.1: Seriously threatened in California (over 80% of occurrences threatened - high degree and immediacy of threat)
- 0.2: Moderately threatened in California (20-80% occurrences threatened - moderate degree and immediacy of threat)
- 0.3: Not very threatened in California (less than 20% of occurrences threatened - low degree and immediacy of threat or no current threats known)

Abbreviations/Acronyms:
- BSA = Biological Study Area
- ft = foot/feet
- N/A = not applicable

[1] Months in parentheses are uncommon.

3.2.2. Wildlife

The BSA supports suitable habitat for a variety of special-status wildlife species. After a thorough literature review, it was determined that 74 special-status wildlife species have the potential to occur on or within the vicinity of the BSA. Fourteen of these species are listed as federal- and/or State-listed endangered or threatened, or proposed/candidate/emergency listed endangered or threatened. In addition, there are three species that are considered fully protected species by the State of California and USFWS designated critical habitat for one bird species. Table 3.3 summarizes further information on these species, including status, habitat requirements, and potential for occurrence.

Table 3.3: Listed, Proposed, and Wildlife Species and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
INVERTEBRATES					
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE, SSA	Endemic to San Diego and Orange County mesas. Found in ponded areas, such as vernal pools, cattle watering holes, basins, etc.	A	Suitable habitat is absent from the BSA.
Quino checkerspot butterfly	*Euphydryas editha quino*	FE, SSA	Generally associated with sage scrub, open chaparral, grasslands, and vernal pools. Within these communities, they are usually observed in open or sparsely vegetated areas (including trails and dirt roads), and on hilltops and ridgelines.	A	Project is outside of known range and outside of survey area.
Delhi Sands flower-loving fly	*Rhaphiomidas terminatus abdominalis*	FE	Endemic to the Colton Dunes ecosystem and Riverside/San Bernardino counties. It is only found in Delhi fine sands soil.	A	Suitable habitat is absent from the BSA.
Riverside fairy shrimp	*Streptocephalus woottoni*	FE, SSA	Endemic to western Riverside, Orange, and San Diego Counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub.	A	Suitable habitat is absent from the BSA.
FISH					
Santa Ana sucker	*Catostomus santaanae*	FT, SSC	Endemic to the Los Angeles Basin south coastal streams. It is usually found in fresh water with sand-rubble or boulder bottoms.	A	Suitable habitat is absent from the BSA. Designated critical habitat is nearby along the Santa Ana River.
Santa Ana speckled dace	*Rhinichthys osculus*	SSC	Occurs in headwaters of the Santa Ana and San Gabriel Rivers and may be extirpated from the Los Angeles River system. Requires permanent flowing streams with cobble and gravel riffle complexes.	A	Suitable habitat is absent from the BSA.
AMPHIBIANS					
Western spadefoot	*Spea hammondii*	SSC	Occurs primarily in grassland and other relatively open habitats. Found in elevations ranging from sea level to 4,500 ft. Requires temporary pools for breeding.	HP	Breeding pools are absent from the BSA, but otherwise the habitat is potentially suitable.
Coast Range newt	*Taricha torosa torosa*	SSC (Monterey County southward)	Occurs in the Coast Ranges from central Mendocino County south to northern San Diego County. Found primarily in mesic habitats, such as oak woodland. Breeds in ponds, reservoirs, or slow-moving streams.	A	Suitable habitat is absent from the BSA.
Arroyo toad	*Anaxyrus californicus*	FE, SSC	Found in semi-arid regions near washes or intermittent streams. Often near streams with sandy banks, gravel washes, and riparian vegetation.	A	Suitable habitat is absent from the BSA.
REPTILES					
Southwestern pond turtle	*Actinemys marmorata pallida*	SSC	Occurs in a variety of habitats, including woodland, grassland, and open forest. Thoroughly aquatic, existing in good-quality ponds, marshes, rivers, streams, and irrigation ditches that have rocky or muddy bottoms. Requires basking sites, such as partially submerged	A	Suitable habitat is absent from the BSA.

Table 3.3: Listed, Proposed, and Wildlife Species and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
			logs, vegetation mats, or open mud banks.		
San Diego banded gecko	*Coleonyx variegates abbotti*	SSA	Occurs in coastal scrub and chaparral habitats with granite or rocky outcrops.	HP	Limited suitable habitat for this species is present within the BSA, but is marginal.
Coast horned lizard	*Phrynosoma blainvillii*	SSC	Occurs in coastal scrub, open chaparral, riparian woodland, and annual grassland habitats that support adequate prey species.	HP	Marginally suitable habitat for this species is present in the BSA; however, no food sources (e.g., harvester ants) were observed during surveys.
Orange-throated whiptail	*Aspidoscelis hyperythra*	SSC	Inhabits low-elevation coastal scrub, chaparral, and valley hardwood habitats. Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food, termites.	HP	Suitable habitat for this species is present within the BSA.
Coastal western whiptail	*Aspidoscelis tigris stejnegeri*	SSA	Occurs in deserts and semiarid areas with sparse vegetation. Often found in woodland and riparian areas.	HP	Suitable habitat for this species is present within the BSA.
Silvery legless lizard	*Anniella pulchra pulchra*	SSC	Inhabits loose soil and humus from central California to northern Baja California.	HP	General habitat for this species is present within the BSA, but is limited.
Rosy boa	*Charina trivirgata*	SSA	Inhabits rock outcrops and rocky shrublands in the southwestern U.S. and western Mexico.	HP	Suitable habitat is present within the BSA.
Red-diamond rattlesnake	*Crotalus ruber*	SSC	Associated with chaparral, woodland, grassland and desert communities from Los Angeles County to Baja California Sur. Prefers rocky areas with dense vegetation. Needs rodent burrows, cracks in rocks, or surface cover objects for shelter.	HP	Suitable habitat is present within the BSA.
Northern leopard frog	*Lithobates pipiens*	SSC	Native range is east of Sierra Nevada-Cascade Crest. Near permanent or semi-permanent water in a variety of habitats. Highly aquatic species. Shoreline cover, submerged and emergent aquatic vegetation are important habitat characteristics.	A	Suitable habitat is absent from the BSA.
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	SSC	Occupies desert scrub, coastal chaparral, washes, sandy flats, and rocky areas.	HP	Suitable habitat is present within the BSA.
Two-striped garter snake	*Thamnophis hammondii*	SSC	Highly aquatic. Found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	A	Suitable habitat is absent from the BSA.
BIRDS					
Cooper's hawk (nesting)	*Accipiter cooperii*	SSA	Nests in a wide variety of woodland and forest habitats.	HP, O	Suitable nesting habitat is present in the BSA and foraging habitat is available. Species was observed during 2011 surveys.

Table 3.3: Listed, Proposed, and Wildlife Species and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
Tricolored blackbird (nesting colony)	*Agelaius tricolor*	SEE	Highly colonial. Most numerous in the Central Valley, largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	A	Suitable nesting habitat is absent from the BSA.
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	SSA	Resident in southern California CSS and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	HP	Suitable habitat is present within the BSA.
Grasshopper sparrow (nesting)	*Ammodramus savannarum*	SSC	Occurs in dense grasslands, preferring native grasslands with a mixture of forbs and shrubs.	HP	Marginally suitable habitat for this species may be present within the BSA.
Bell's sparrow (nesting)	*Amphispiza belli belli*	SSA	Frequents low, fairly dense stands of shrubs within CSS or chaparral habitat.	HP	Suitable habitat is present within the BSA, but is marginal.
Golden eagle	*Aquila chrysaetos*	SFP	Uncommon, permanent resident and migrant throughout most of California. Occurs typically in rolling foothills, mountain areas, sage-juniper flats, and desert habitats.	HP	Limited suitable foraging habitat is present within the BSA. Formerly nested within Gypsum Canyon.
Great egret (nesting)	*Ardea alba*	SSA	Nests primarily in colonies near wetlands in trees or bushes at scattered locations throughout the northern hemisphere.	A, O	Suitable nesting habitat is absent from the BSA. This species was observed flying over the BSA during 2011 surveys.
Great blue heron (nesting)	*Ardea herodias*	SSA	Nests in tall trees in close proximity to foraging areas; marshes, lake margins, tide flats, rivers and streams, and wet meadows. Colonial nester.	A, O	Suitable nesting habitat is absent from the BSA. This species was observed flying over the BSA during 2011 surveys.
Long-eared owl (nesting)	*Asio otus*	SSC	Nests in riparian areas with tall willows and cottonwoods, as well as belts of live oak woodlands occurring adjacent to streams. Requires adjacent open land for foraging and utilizes old nests of crows, hawks, or magpies for breeding.	A	Suitable nesting habitat for this species in the BSA is lacking, but marginally suitable foraging habitat for this species is present in the BSA.
Burrowing owl (burrow sites)	*Athene cunicularia*	SSC	Burrows in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	HP	Limited suitable wintering habitat for this species is present along the roadsides, but suitably sized breeding habitat is lacking within the BSA.
Oak titmouse (nesting)	*Baeolophus inoratus*	SSA	Common resident of much of California, primarily in oak woodland. Also inhabits oak-conifer and riparian woodland and pinyon-juniper associations.	A	Suitable nesting habitat is absent from the BSA.
Ferruginous hawk	*Buteo regalis*	SSA	Open country in western North America, north to Canada in summer and south to Mexico in winter.	HP	Suitable foraging habitat is present within the BSA.

Table 3.3: Listed, Proposed, and Wildlife Species and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
Swainson's hawk	*Buteo swainsoni*	ST	Open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Breeds and nests in western North America; winters in South America. Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley. In Southern California, now mostly limited to spring and fall transient. Formerly abundant in California with wider breeding range.	A	Suitable habitat is absent from the BSA.
Costa's hummingbird (nesting)	*Calypte costae*	SSA	Found primarily in deserts, arid brushy foothills, and chaparral. Wanders widely.	HP	Suitable habitat is present within the BSA.
San Diego cactus wren	*Campylorhynchus brunneicapillus sandiegensis*	SSC	Occurs in CSS habitats. Requires tall *Opuntia* cactus for nesting and roosting. Subspecies ranges from southern Orange County southward.	A	Outside of known range for this species.
Lawrence's goldfinch (nesting)	*Carduelis lawrencei*	SSA	Found in oak woodland, chaparral, riparian woodland, and other habitats in arid regions, but usually near water. Occurs from Northern California to northern Baja California, but periodically wanders throughout much of western North America.	HP	Suitable habitat is present within the BSA within CSS, chaparral, and oak woodland communities, but is limited.
Lark sparrow (nesting)	*Chondestes grammacus*	SSA	Found in open habitats with scattered bushes or trees. Breeds throughout much of western North America and winters from the southern U.S. to southern Mexico.	HP	Suitable habitat is present within the BSA.
Northern harrier (nesting)	*Circus cyaneus*	SSC	Frequents freshwater and saltwater emergent wetlands, grasslands, and meadows.	A	Suitable foraging habitat for this species is present in the BSA, but is marginal. Suitable nesting habitat for this species in the BSA is lacking.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, SE	Nests in riparian forests, along the broad, lower flood-bottoms of large river systems. Nests are found in jungles of willow often mixed with cottonwoods with understory of blackberry, nettles, or wild grape.	A	Suitable habitat for this species in the BSA is lacking. Now extremely rare in the Prado Basin.
California yellow warbler (nesting)	*Dendroica petechia brewsteri*	SSC	Associated with riparian habitats. Prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging.	A	Suitable habitat is absent from the BSA. Now extremely rare in the Prado Basin.

Table 3.3: Listed, Proposed, and Wildlife Species and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
Snowy egret (nesting)	*Egretta thula*	SSA	Nests primarily in colonies near wetlands in trees or bushes at scattered sites from central North America to South America	A	Suitable habitat for this species in the BSA is lacking.
White-tailed kite	*Elanus leucurus*	SFP	Breeds in riparian trees such as oaks, willows, and cottonwoods in lower-elevation areas, particularly coastal valleys and plains.	A	Suitable habitat is absent from the BSA.
Southwestern willow flycatcher (nesting)	*Empidonax traillii extimus*	FE, SE	Rare and local breeder in riparian habitat usually with standing water, in the southwestern U.S. and (formerly?) northwestern Mexico. Winters in Central and South America.	A	Suitable nesting habitat is absent from the BSA. The species is known to occur along the nearby Santa Ana River (CNDDB 2015).
California horned lark	*Eremophila alpestris actia*	SSA	Occurs in open grasslands, farmlands, prairies, tundra, airports, beaches, golf courses, cemeteries, and parks.	HP	Suitable habitat is present within the BSA.
Merlin (wintering)	*Falco columbarius*	SSA	Open country; breeds in the Holarctic Region and winters south to the tropics. Rare fall migrant and winter visitor to southwestern California.	HP	Suitable habitat is present within the BSA.
Bald eagle (nesting and wintering)	*Haliaeetus leucocephalus*	FD, SE	Nests in large trees and on platforms. Nests are commonly within 1 mi of water. Roost communally in winter.	HP	Marginally suitable foraging habitat is present within the BSA.
Yellow-breasted chat (nesting)	*Icteria virens*	SSC	Summer resident of California. Inhabits riparian thickets of willow and other brushy tangles near water. Nests in low, dense vegetation consisting of willow, blackberry, and wild grape.	A	Suitable habitat is absent from the BSA.
Loggerhead shrike (nesting)	*Lanius ludovicianus*	SSC	Found in open fields with scattered trees, open woodland, and scrub. Declining throughout southern California.	HP	Limited suitable nesting habitat present within the BSA.
Black-crowned night heron (nesting)	*Nycticorax nycticorax*	SSA	Nests primarily in colonies near wetlands in trees or bushes at scattered sites around the world.	A	Suitable habitat is absent from the BSA.
Double-crested cormorant (nesting)	*Phalacrocorax auritus*	SSA	Nests throughout much of North America; primarily in colonies on the ground near water, in trees, on cliffs, and artificial structures.	A, O	Suitable nesting habitat is absent from the BSA. This species was observed flying over the BSA during 2011 surveys.
Nuttall's woodpecker (nesting)	*Picoides nuttallii*	SSA	Oak, pine-oak, and riparian woodland in California and northwestern Baja California.	A	Suitable nesting habitat is absent from the BSA.
Coastal California gnatcatcher	*Polioptila californica californica*	FT, SSC	Obligate, permanent resident of CSS below 2,500 ft in southern California.	HP, O	Suitable habitat is present within the BSA. Breeding territory found during 2011 focused surveys.

Table 3.3: Listed, Proposed, and Wildlife Species and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
Allen's hummingbird (nesting)	*Selasphorus sasin*	SSA	Found in chaparral, open oak woodland, riparian woodland, and residential areas on the breeding grounds from southwestern Oregon to southwestern California. Wintering grounds are primarily in montane woodland in central Mexico.	HP, O	Suitable habitat for this species is present in the BSA. This species was observed during 2011 surveys, but no nests were found.
Black-chinned sparrow (nesting)	*Spizella atrogularis*	SSA	Breeds in chaparral, sagebrush, and arid scrub in the southwestern U.S. and northwestern Mexico. Winters primarily in Mexico.	HP	Limited suitable habitat for this species is present within the BSA.
Least Bell's vireo (nesting)	*Vireo bellii pusillus*	FE, SE	Occurs in moist thickets and riparian areas that are predominantly composed of willow and mulefat.	A	Suitable nesting habitat is absent from the BSA. The species is known to occur along the nearby Santa Ana River (CNDDB 2015).
MAMMALS					
Pallid bat	*Antrozous pallidus*	SSC	Day roosts in caves, crevices, rocky outcrops, tree hollows or crevices, mines and occasionally buildings, culverts, and bridges. Night roosts may be more open sites, such as porches and open buildings. Grasslands, shrublands, woodlands, and forest in western North America.	HP	Suitable roosting habitat is present within and adjacent to the BSA. Unconfirmed potential detection at Coal Canyon box culvert in 2008.
Ringtail	*Bassariscus astutus*	SFP	Woody and rocky areas of the southwestern U.S. and most of Mexico.	A	Suitable habitat is absent from the BSA.
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	SSC	Occurs in coastal scrub, chaparral, grasslands, and sagebrush. Requires sandy, herbaceous areas, usually in association with rocks or coarse gravel.	HP	Suitable habitat is present within the BSA.
Mexican long-tongued bat	*Choeronycteris mexicana*	SSC	Occasionally found in San Diego County. Feeds on nectar and pollen of night-blooming succulents. Roosts in relatively well-lit caves, as well as in and around buildings.	A	Although limited suitable habitat structure is present on site, the BSA is outside of the known range of this species. This species is not expected to occur within the BSA.
Townsend's big-eared bat	*Corynorhinus townsendii*	SCT	Requires caves, mines, tunnels, buildings, or other similar structures for roosting. May use buildings or bridges for roosting. Often uses separate sites for night, day, hibernation, or maternity roosts. Ranges from southwestern Canada through the western United States to southern Mexico.	HP	Marginally suitable habitat is present in the vicinity of the BSA.
Western mastiff bat	*Eumops perotis californicus*	SSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in vertical cliff faces, high buildings, trees, and tunnels, and travels widely when foraging.	HP	There is potentially suitable roosting habitat present in the vicinity of the BSA. Foraging individuals wander widely.

Table 3.3: Listed, Proposed, and Wildlife Species and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
Western red bat	*Lasiurus blossevillii*	SSC	Roosts in the foliage of trees and shrubs, commonly in edge habitats along streams or open fields, and sometimes in orchards or urban areas. Often associated with riparian habitats, particularly those containing sycamores and cottonwoods.	HP	Marginally suitable roosting habitat for this species is present in the vicinity of the BSA.
Hoary bat	*Lasiurus cinereus*	SSA	Forages over a wide range of habitats, but prefers open habitats with access to trees for roosting, and water. Ranges throughout most of California.	HP	Marginally suitable roosting habitat present in the vicinity of the BSA.
Southwestern yellow bat	*Lasiurus xanthinus*	SSC	Found in desert regions of the southwest U.S. Individuals roost in the dead fronds of palm trees, and have also been documented roosting in cottonwood trees.	HP	Marginally suitable roosting habitat for this species is present in the vicinity of the BSA.
Black-tailed jackrabbit	*Lepus californicus bennettii*	SSC	Found in a variety of habitats, including herbaceous and desert scrub areas, early stages of open forest, and chaparral. Most common in relatively open habitats. In southern California generally restricted to the cismontane areas, extending from the coast to the Santa Monica, San Gabriel, San Bernardino, and Santa Rosa Mountain ranges.	HP	Suitable habitat is present within the BSA.
Western small-footed myotis	*Myotis ciliolabrum*	SSA	Occupies a wide variety of habitats, primarily relatively arid wooded and brushy uplands near water. Found from sea level to at least 8,900 ft in elevation. In California occurs from Contra Costa County south to the Mexican border, west and east sides of the Sierra Nevada and in the deserts from Modoc to Kern and San Bernardino Counties.	HP, O	Suitable roosting habitat is present within and adjacent to the BSA. Observed during 2008 and 2013 surveys at the Coal Canyon box culvert.
Long-eared myotis	*Myotis evotis*	SSA	Occurs throughout most of California in semiarid shrublands, sage, chaparral, and agricultural areas, but is usually associated with coniferous forests. Individuals roost under exfoliating tree bark, and in hollow trees, caves, mines, cliff crevices, sinkholes, and rocky outcrops on the ground. May roost in buildings and under bridges.	HP	Suitable roosting habitat is present within and adjacent to the BSA. Unconfirmed potential detection at Coal Canyon box culvert in 2008.

Table 3.3: Listed, Proposed, and Wildlife Species and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
Long-legged myotis	*Myotis volans*	SSA	Varied habitats in western North America. Primarily associated with coniferous forests, but also occurs seasonally in riparian and desert habitats. Roosts in abandoned buildings, cliff crevices, exfoliating tree bark, and cavities within snags; may also roost in caves and mine tunnels.	HP	Marginally suitable roosting habitat is present within and adjacent to the BSA.
Yuma myotis	*Myotis yumanensis*	SSA	Common and widespread in California. Found in a wide variety of habitats ranging from sea level to 11,000 ft. Optimal habitats are open forests and woodlands with sources of water over which to feed.	HP, O	Suitable habitat is present within the BSA. Roosting observed during 2008 surveys at the Gypsum Canyon box culvert and the Coal Canyon box culvert.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	SSC	Occurs from the southwestern United States to central Mexico. Usually associated with cliffs, rock outcrops, or slopes. May roost in buildings (including roof tiles) or caves.	HP	There is potentially suitable roosting habitat present in the vicinity of the BSA. Foraging individuals wander widely.
Big free-tailed bat	*Nyctinomops macrotis*	SSC	Found from northern South America and the Caribbean Islands northward to the western United States. In the southwestern U.S., populations appear to be scattered. Roosts primarily in crevices in cliffs, though also recorded roosting in buildings, caves, and tree cavities.	HP	There is potentially suitable roosting habitat present in the vicinity of the BSA. Foraging individuals wander widely.
San Diego desert woodrat	*Neotoma lepida intermedia*	SSC	Occurs in CSS and chaparral, most commonly associated with cactus and rocky cliffs and slopes. Found in coastal southern California from San Diego County to San Luis Obispo County.	HP	Suitable habitat is present within the BSA.
Southern grasshopper mouse	*Onychomys torridus ramona*	SSC	Primarily open scrub habitats of southwestern California and northwestern Baja California.	HP	Suitable habitat is present within the BSA.
American badger	*Taxidea taxus*	SSC	Occurs throughout much of North America. Primary habitat requirements seem to be sufficient food and friable soils in relatively open uncultivated ground in grasslands, woodlands, and deserts.	HP	Suitable habitat is present within the BSA.

Table 3.3: Listed, Proposed, and Wildlife Species and Critical Habitat Potentially Occurring or Known to Occur in the Vicinity of the Project Area

Common Name	Scientific Name	Status Listing	Habitat and Comments	Habitat Present/ Absent	Rationale
CRITICAL HABITAT					
Coastal California Gnatcatcher	*Polioptila californica californica*	F: Designated Critical Habitat	Final critical habitat for coastal California gnatcatcher. Identification numbers 357 and 365. Both designated on January 18, 2008. Unit 7: Central-Coastal NCCP/HCP. This 4,309 ac unit is under State (Chino Hills State Park), County, and private ownership and includes select areas defined in the NCCP/HCP as Existing Use Areas (areas not included in the NCCP/HCP). This area is not included in the permit area covered under the NCCP/HCP; therefore, there is no requirement to manage for CAGN or its habitat in this area.	CH	Two critical habitat polygons occur in the BSA along the SR-91.

Status:

BCC = Birds of Conservation Concern (federal designation)
F = Federal Designation
FC = Federal Candidate
FD = Federal Delisted
FE = Federal Endangered
FPE, FPT = Federal Proposed (Endangered, Threatened)
FSC = Federal Species of Concern
FT = Federal Threatened
SCT =State Candidate Threatened
SD = State Delisted
SE = State Endangered
SEE = State Emergency Endangered
SFP = State Fully Protected
SSA = State Special Animal
SSC = State Species of Special Concern
ST = State Threatened

Habitat Present/Absent:

A = No habitat is present and no further work needed.
CH = The Proposed Project footprint is located within a designated critical habitat unit, but this does not necessarily mean that appropriate habitat is present.
HP = Habitat is or may be present. The species may be present.
P = The species is present. The species was observed or detected in the BSA.

Abbreviations/Acronyms:

BSA = Biological Study Area
CNDDB = California Natural Diversity Database
CSS = coastal sage scrub
ft = feet
m = meters
mi = miles
NCCP/HCP = Natural Community Conservation Plan/Habitat Conservation Plan/Habitat Conservation Plan

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Chapter 4. Results: Biological Resources, Discussion of Impacts, and Mitigation

4.1. Natural Communities of Special Concern

Habitats are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals occurring on site. LSA biologists identified two primary plant communities that are considered important by State and/or local agencies: oak woodland/tree species and CSS. These communities of special interest occur in isolation (oaks) and throughout (CSS) the BSA. The oak tree species/woodland is limited to the SR-241/SR-91 junction area, while the CSS habitat within the BSA occurs throughout the BSA. Both are described in more detail below and are shown in the Biological Resources Map and Biological Resources and Project Impacts in Appendices A and G, respectively.

Appendix J, Project Impacts to Biological Resources, illustrates where the Project would impact CSS and other biological resources. Project impacts are based on LSA's interpretation of the construction plans with assistance from the Project engineers.

4.1.1. Discussion of Natural Community Oak Woodland

The oak woodland habitat type is considered important to Caltrans and the CDFW because the structural diversity and food production of this habitat type provide relatively high wildlife habitat values. Oak trees and woodland can provide habitat for well over 300 terrestrial species (Pavlik et al. 1991). In each type of oak habitat (e.g., woodland, riparian), there is a different set of co-occurring plant species that is often beneficial to wildlife. Animals are affected by these differences in terms of food supply, nesting sites, and predator cover, and respond according to their own ecological requirement (Pavlik et al. 1991). This biological resource is especially valuable and of limited distribution. Both Caltrans and the CDFW recognize oak trees for their historical, aesthetic, and ecological qualities, and seek to preserve and propagate this unique, plant community of limited distribution, especially those trees that may be classified as heritage oaks (Caltrans 1989). Caltrans maintains all trees within the right-of-way for sight distance in relation to the roadway, including oak trees.

Oak woodland habitat is present in the BSA, and oak trees (several are mature [greater than 8 inches diameter at breast height [dbh]) do occur within the SR-241/SR-91 junction area.

4.1.1.1. Survey Results

A small area of oak woodland habitat (0.68 ac) is present south of SR-91 associated with Drainage Feature 6. Furthermore, during the computer imagery survey (Bing aerials) and ground truthing survey in the summer of 2014, a total of approximately 14 coast live oak trees and 40 western sycamore trees were observed within the BSA (Appendix A and J, Sheets 6 and 8); however, any coast live oaks, sycamores, or scrub oaks (*Quercus berberidifolia*) within the Project limits will be formally inventoried following Project staking. The dripline of individual oak trees are contained within the SR-241/SR-91 junction right-of-way and do not extend over any roadways.

4.1.1.2. Project Impacts

The Project would likely permanently impact a total of approximately six coast live oak trees and temporarily impact eight coast live oak trees and approximately 15 sycamore trees within the SR-241/SR-91 junction area. Permanent impacts may include complete removal, substantial encroachment, or extensive branch removal that may have significant detrimental impacts to the long-term viability of the trees. Temporary impacts would be limited to the duration of the Project and would not impact the long-term viability of the trees and may include minor trimming, foot traffic within driplines, and dust. Appendix J, Project Impacts to Biological Resources, illustrates the locations of proposed impacts to coast live oak and sycamore trees within the BSA.

Permanent impacts to individual trees due to substantial encroachment or extensive branch removal has to be estimated. Some individual trees may thrive with extensive trimming, while others may die out completely. Maintenance of an inventory of impacted trees will ensure that the number of individual trees impacted does not exceed that disclosed in this document.

4.1.1.3. Avoidance and Minimization Efforts

The following measures will be incorporated to avoid and minimize impacts to oak trees and oak habitat and sycamore trees:

- Prior to clearing or construction, highly visible barriers and, as needed, silt fencing will be installed around the protected zone of any oak tree or oak habitat.

Such areas will be designated as Environmentally Sensitive Areas (ESAs) to be preserved. The protected ESA zone will extend 5 ft (1.5 m) outside of the dripline or 15 ft (4.58 m) from the trunk of the tree, whichever is greater, unless the area includes a road shoulder or existing asphalt. In these instances, safety requires the road shoulder or existing asphalt will not be included in the ESA, but rather will be considered a modified ESA area. These modified ESA areas are included since impacts to oaks may occur within these road shoulder and asphalt areas if roots become exposed, soil surrounding roots is excessively compacted, material is deposited over roots, or branches or roots are broken or damaged. In addition, to avoid breaking overhanging branches, branch trimming may be required. Proper tree pruning procedures will be followed. No grading or fill activity of any type will be permitted within the ESA for trees that are expected to be preserved. In addition, heavy equipment, including motor vehicles, will not be allowed to operate within the ESAs. All construction equipment will be operated in such a manner as to prevent accidental damage to nearby oaks. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where trees are adjacent to planned construction activities.

- Prior to clearing or construction, in order to avoid impacts to nesting birds, any native vegetation removal or tree (native or exotic) trimming activities will occur outside of the nesting bird season (February 15–August 31). In the event that vegetation clearing is necessary during the nesting season, a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the qualified biologist. This buffer will be clearly marked in the field by construction personnel under guidance of the qualified biologist, and construction or clearing will not be conducted within this zone until the qualified biologist determines that the young have fledged or the nest is no longer active.
- **ETC Final EIR and Final EIS Measure B-2:** *Prior to grading and site preparation, all native oak, sycamore, and willow trees of 4 inches in diameter at breast height (DBH-4 ½ ft from mean ground level) within the Project limits and within 20 ft of grading an construction operations shall be tagged and numbered with permanent tags. The tag numbers of the trees to be protected and those to be removed shall be noted. Records of these numbers shall be kept by TCA, the Resource Management Coordinator/Monitor and the Orange County Environmental Management Agency/Environmental Planning Division for use in*

mitigation/replacement and monitoring of tree resources before, during and after grading and construction activities.

- **ETC Final EIR and Final EIS Measure B-3:** *Prior to grading and site preparation, all trees subject to removal shall be marked with a red "X" on the trunk. Trees to be preserved shall be marked with yellow flagging visible from all direction. Trees to be preserved will be marked with yellow flagging visible from all directions.*

4.1.1.4. Compensatory Mitigation

Compensatory mitigation for impacts to trees will include replacement of trees at approved ratios as part of a revegetation program. During the Final Design process, TCA will develop a revegetation program to help compensate for lost oak trees with spacing criteria to be determined by the Project biologist. Senate Concurrent Resolution No. 17 (filed with the Secretary of State on September 1, 1989) requires all State agencies to preserve and protect native oak woodlands to the maximum extent feasible or to provide for replacement plantings. Per Caltrans policy, impacts to any oak trees (excluding California scrub oaks) with trunk sizes greater than 8 inches dbh, but less than 36 inches dbh, will be replaced at a minimum mitigation-to-impact ratio of 1:1, if feasible. Heritage oaks (oaks greater than 36 inches dbh) will be replaced at a minimum mitigation-to-impact ratio of 3:1, if feasible. Replacement resources will include a combination of plantings such as acorns, 5 gallon, and 15 gallon trees and/or transplantation where feasible (ETC Final EIR and Final EIS Measure B-7). Replacement plantings may take place in TCA or Caltrans right-of-way or suitable areas in proximity to the Project.

4.1.1.5. Cumulative Impacts

Most of California's oaks are found on private property and are located in suburban and semirural areas subject to development. In many areas of the State, oak populations are experiencing little or no tree replacement. Although there are periodic seasons of good acorn germination and seedling establishment, there is a persistent failure for seedlings to become pole-size trees (Pavlik et al. 1991). Therefore, despite protection, California's oaks and oak habitats are declining.

Although Caltrans provides for the protection and replacement of oak trees and the protection of oak habitats, oak trees take 60 to 80 years to mature. However, suitable habitat is expected to be available for wildlife within 20 years of planting. Despite the removal of individual mature oak trees within the SR-241/SR-91 junction, it is

unlikely that the removal would cause cumulative impacts to oak species or wildlife given the sparse nature of the oak habitat in this area.

4.1.2. Discussion of Natural Community Coastal Sage Scrub

CSS is generally a patchy plant community found in diverse habitat mosaics and is dominated by a suite of shrub species found in Southern California. Shrub cover is dense and generally continuous, with low moisture content. Steep, xeric slopes and quickly draining soils characterize the CSS community. Annual herbs, including weedy grasses and forbs and native wildflowers, are common in openings and disturbed areas.

CSS has become displaced by spreading urbanization. Many rare and endangered species occur in CSS and associated plant communities. Consequently, degradation and displacement of CSS also has resulted in substantial habitat loss for a variety of animal species. Therefore, the CDFW and USFWS have special concern for this habitat type (Appendix A and J).

4.1.2.1. Survey Results

This habitat type occurs throughout the BSA. Although much of the CSS in the BSA was planted or otherwise developed following the original road construction and has been subject to some degree of disturbance due to regular maintenance within the right-of-way and other methods of human-induced disturbance, much of it is good habitat quality. Specifically, the CSS vegetation located in the median at the SR-241/91 junction (Sheets 4 and 6 of Appendix A) and along the south side of SR-91 (Sheets 7 and 8 of Appendix A) is of good quality. However, the CSS in the median between the existing northbound and southbound SR-241 general-purpose lanes, as well as the CSS on the slopes east of SR-241 (Sheets 1 through 4 of Appendix A) has a high concentration of nonnative ruderal plant species and is of poor quality.

4.1.2.2. Project Impacts

The Proposed Project would result in direct permanent and temporary impacts to CSS habitat within and outside the NCCP/HCP Plan Area through disturbance and/or removal of existing vegetation. Permanent impacts range from complete removal to grading and revegetation or heavy encroachment. This has the potential to have some detrimental impacts to the local natural community, but the area is within an NCCP/HCP planning area, and substantial additional open space has been conserved, beyond the requirements of the NCCP/HCP. Therefore, this habitat has been

adequately conserved in the subregion, and the impacts are not considered substantial in that context. Temporary impacts will only occur during construction to allow for construction and equipment staging; therefore, temporary impacts to CSS will be limited to incidental encroachment and be restored; otherwise, impacts are considered permanent.

As shown in Table 4.1, within the NCCP/HCP Plan Area, the Proposed Project would permanently impact a total of approximately 10.41 ac of CSS and temporarily impact up to 29.68 ac of CSS. Outside the NCCP/HCP Plan Area, the Project would have no permanent impact on CSS, but would temporarily impact up to 0.02 ac of CSS. Appendix J, Project Impacts to Biological Resources, illustrates where the Proposed Project would impact CSS. Temporary impacts are the maximum extent expected to allow for construction staging and access. In addition to physical disturbance, the Project would result in other direct impacts and may result in indirect impacts. Temporary direct impacts include construction-related impacts such as dust, noise, potential fuel spills from construction equipment, possible night lighting during construction, and activities of equipment or personnel outside designated construction areas. In addition, construction may indirectly impact CSS permanently through operational impacts, such as impacts on adjacent habitats caused by increased storm water runoff, traffic, litter, or through enhancing germination and proliferation of nonnative invasive plant species.

4.1.2.3. Avoidance and Minimization Efforts

The following measures are required Construction-Related Minimization Measures from Section 7.5.3 of the Central & Coastal Subregion NCCP/HCP Final EIR/EIS (County 1996b) and will be incorporated to avoid and minimize impacts to CSS habitat within the NCCP/HCP Plan Area. The Section 7 consultation will determine whether these measures also apply to areas in the non-NCCP/HCP Plan Area north of SR-91 and what other avoidance and minimization measures established in an amended or new Biological Opinion may be required.

Table 4.1: Potential Impacts to Coastal Sage Scrub Vegetation in the NCCP/HCP and Non-NCCP/HCP Plan Areas by Roadway

Coastal Sage Scrub	Within the NCCP/HCP Plan Area				Outside the NCCP/HCP Plan Area			
	Within Caltrans Right-of-Way		Outside Caltrans Right-of-Way		Within Caltrans Right-of-Way		Outside Caltrans Right-of-Way	
	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres
SR-241	23.68[1]	3.53	0.00	0.00	0.00	0.00	0.00	0.00
SR-91	6.00	6.88	1.58	3.25	0.02	0.00	0.00	0.00
Total	**29.68**[2]	**10.41**	**1.58**	**3.25**	**0.02**[3]	**0.00**	**0.00**	**0.00**

[1] A total of 0.07 ac of temporary impacts to the CSS mitigation sites associated with the SR-241 initial construction are expected along SR-241 between Post Mile 36.7 and Post Mile 38.7. The areas are on each side of Windy Ridge Wildlife Undercrossing and are within both the NCCP/HCP Plan Area and the Caltrans right-of-way.

[2] Of the 29.68 ac of temporary impacts to CSS within the NCCP/HCP, 0.03 ac is within an NCCP/HCP Existing Use Area. There are no permanent impacts expected to CSS in the Existing Use Area.

[3] The 0.02 ac of temporary impacts outside of the NCCP/HCP will be mitigated per the measures in the amended or new Biological Opinion, but may likely consist of replacement. This 0.02 ac area is adjacent to the Gypsum Canyon Road westbound SR-91 on-ramp, is not in designated CAGN critical habitat, and is not known to be CAGN occupied.

ac = acre/acres
CAGN = coastal California gnatcatcher
Caltrans = California Department of Transportation
CSS = coastal sage scrub
NCCP/HCP = Natural Community Conservation Plan/Habitat Conservation Plan
SR-91 = State Route 91
SR-241 = State Route 241

During clearing or construction, to the maximum extent practicable, no grading of CSS habitat that is occupied by nesting CAGN will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures" are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of CAGN, cactus wrens (Campylorhynchus brunneicapillus), and any other CSS Identified Species that are not otherwise flushed and will carry out the following measures only to the extent practicable in the context of the public health and safety considerations. The breeding season is now considered to be from February 15 through August 31; therefore, these dates are applicable to this measure.

- *Prior to the commencement of grading operations or other activities involving substantial soil disturbance, all areas of CSS habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate CAGN and cactus wrens within 100 ft of the outer extent of projected soil disturbance activities. The locations of any such species shall be clearly marked and identified on the construction/grading plans.*
- *A monitoring biologist acceptable to USFWS/CDFW will be on site during any clearing of CSS. The landowner or relevant public agency/utility will advise USFWS/CDFW at least 7 calendar days (preferably 14 calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/ CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the responsibility of the monitoring biologist to ensure that Identified Species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.*

- *Following the completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials will be permitted within such marked areas.*
- *In areas bordering the NCCP/HCP Reserve System or Special Linkage/Special Management areas containing substantial CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors, and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.*
- *CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.*

The following measures are included in the ETC Final EIR and Final EIS and are applicable to the SR-241/SR-91 Express Lanes Connector Project.

- **ETC Final EIR and Final EIS Measure B-4:** *In conjunction with grading, site preparation and construction, short term soil stabilization using accepted soil protection techniques and native species shall be conducted under the direction of a qualified biologist, where determined to be appropriate to protect sage scrub communities.*
- **ETC Final EIR and Final EIS Measure B-8*:*** *For the period covering all site preparation, grading and construction, a resource management coordinator shall monitor wildlife habitat preservation to ensure that the ESAs and areas outside the right-of-way are not adversely impacted. The monitor shall be on site before, during, and after the completion of site preparation, grading and construction.*
- **ETC Final EIR and Final EIS Measure B-10:** *In conjunction with the final design and prior to site preparation (R9-123), all sensitive species and special habitats within 300 ft of the ETC alignment right-of-way shall be mapped on the grading plans by a qualified biologist. Sensitive and candidate species and special habitats shall be defined as:*
  - *Threatened Species/Candidate Species*

    - *Many-stemmed dudleya*
    - *Orange-throated whiptail*
    - *California gnatcatcher/cactus wren*
  - *Special Habitats*
    - *Wetlands*
    - *Streamcourses*
    - *Oak woodland*
  - *Coastal sage scrub*
- **ETC Final EIR and Final EIS Measure B-11:** *Prior to site preparation, grading and construction, TCA shall implement procedures for protecting sensitive and candidate species and special habitats identified and mapped on grading plans, as required by mitigation measure B-10, during site preparation, grading, construction and maintenance activities by following Caltrans Environmentally Sensitive Area procedures (R9-133).*

4.1.2.4. Compensatory Mitigation

NCCP/HCP Plan Areas

There are three relevant reference documents for the County of Orange, Central & Coastal Subregion NCCP/HCP, Parts I and II: the NCCP/HCP plan itself (of the same title) (County 1996a); the Joint EIR (Final EIR 553) and the EIS (Final EIS 96-26) (County 1996b); and the NCCP/HCP Implementation Agreement (County 1996c). As noted in the Implementation Agreement (page 34) and the Final EIR/EIS (pages 7–142), mitigation for all of the TCA Transportation Corridors in the Central & Coastal Subregional Plan area was comprehensive and included $6.615 million in funds and 651 ac of CSS revegetation, restoration, and preservation for three transportation corridors, including SR-241. The following components were specifically for the ETC, including the connection with SR-91.

- Contribution of $2,015,000 to the NCCP/HCP Conservation Fund
- Revegetation and restoration of 384 ac
- Maintenance of 25 cowbird traps
- Construction of 5 wildlife undercrossings and 26 wildlife culverts

As described in Parts I and II of the NCCP/HCP documents, all development activities addressed by the NCCP/HCP are considered fully mitigated under the NCCP Act, CESA, and FESA for impacts to habitat occupied by listed and other species identified by the NCCP/HCP documents. Therefore, compensatory mitigation for Project impacts within the NCCP/HCP Plan Areas has already been completed

pursuant to the NCCP Implementation Agreement; however, USFWS verification and acceptance of the mitigation components for impacts to CSS shall occur during Section 7 consultation.

Non-NCCP/HCP Plan Areas

CSS outside of the NCCP/HCP Plan Area is not protected by any federal, State, or local regulations, with the exception of CAGN designated critical habitat and/or occupied areas. For nonprotected, nonoccupied areas, no compensatory mitigation is required. There are no anticipated permanent or temporary impacts to CSS outside of the NCCP/HCP Plan Area. Outside the NCCP/HCP Plan Area there would be temporary impacts within CAGN-designated critical habitat to: chaparral (0.18 ac); nonnative grassland (0.87 ac); ruderal (0.58 ac); and developed (6.33 ac), as well as permanent impacts to developed areas (1.18 ac). Mitigation is discussed in Section 4.4.3, Discussion of Coastal California Gnatcatcher.

4.1.2.5. Cumulative Impacts

The NCCP/HCP was conceived, developed, and is being implemented specifically to address direct, indirect, permanent, and temporary impacts on species and habitats (including CSS) within central and coastal Orange County, resulting from the build out of planned land use and infrastructure, including the Proposed Project. The NCCP/HCP ensures that the cumulative impacts to those species identified are effectively mitigated by assembling the Reserve System. Because the Proposed Project is a project covered by the NCCP/HCP, the part of the Proposed Project within the NCCP/HCP Plan Area is not expected to contribute to the cumulative impacts to CSS.

However, Project impacts to CSS outside of the NCCP/HCP Plan Area may incrementally contribute to the cumulative loss of CSS vegetation in the region.

As described above, the Proposed Project would result in the permanent and temporary removal of CSS within the Project disturbance limits and has the potential to result in adverse impacts on the plant and animal species associated within this natural community. Some of the other cumulative projects that are in the same geographic areas may also result in the permanent and/or temporary removal of CSS and have the potential to result in adverse impacts on the plant and animal species (e.g., CAGN) associated with this natural community. Future development of these areas may increase traffic noise and additional nighttime light spill into preserved areas, as well as the degradation of CSS habitat as a result of off-site development.

Mitigation is discussed in Section 4.4.3, Discussion of Coastal California Gnatcatcher.

4.2. Special-Status Plant Species

A total of seven of the 40 special-status plant species with potential of occurring within the BSA are federal- and/or State-listed as threatened, endangered, or candidate species: Munz's onion, Braunton's milk-vetch, thread-leaved brodiaea, San Fernando Valley spineflower, slender-horned spineflower, Santa Ana River woollystar, and Gowen cypress. As noted in Table 3.2, there is no suitable habitat within the BSA for Braunton's milk-vetch (designated critical habitat and known occurrences adjacent to the BSA), slender-horned spineflower, Santa Ana River woollystar, and Gowen cypress. Discussed in this chapter are the results of surveys, critical habitat, avoidance and minimization measures, Proposed Project impacts, compensatory mitigation, and cumulative impacts for Munz's onion, Braunton's milk-vetch, thread-leaved brodiaea, San Fernando Valley spineflower, Coulter's matilija poppy, and Southern California black walnut. In addition, other special-status plant species, including those listed by the CNPS as CRPR 1B, 2, and 3 with potential of occurring and those observed CRPR 4 within the BSA, are discussed in this chapter.

4.2.1. Discussion of Munz's Onion

Munz's onion is a perennial bulbiferous herb that occurs in chaparral, coastal scrub, cismontane woodland, pinyon-juniper woodland, and valley and foothill grassland. It is usually found in heavy clay soils from approximately 900 to 3,200 ft in elevation. This species is federally listed as endangered and is State-listed as threatened. It is also a CNPS CRPR 1B species.

4.2.1.1. Survey Results

Botanical surveys conducted for this species in 2011 during the appropriate blooming period (March–May) and in August 2013 and May 2014 were negative. In addition, there is no designated critical habitat for Munz's onion in the BSA. The nearest known population of Munz's onion is at the junction of I-15 and Indian Truck Trail, several miles south of the BSA. Furthermore, based on focused special-status species survey results conducted for the Mountain Park Project in 2001 and 2003 (BonTerra 2005), results were negative for this special-status plant species in the recently added proposed slope grading area outside of the original BSA. Therefore, this species is considered absent from the BSA.

4.2.1.2. Project Impacts

Because this species is considered absent from the BSA, the Proposed Project is not expected to impact this species.

4.2.1.3. Avoidance and Minimization Efforts

Because this species is considered absent from the BSA, no avoidance and minimization efforts are required.

4.2.1.4. Compensatory Mitigation

Because this species is considered absent from the BSA, no compensatory mitigation is required.

4.2.1.5. Cumulative Impacts

Because this species is considered absent from the BSA, it is unlikely that the Proposed Project would contribute to cumulative impacts to this species.

4.2.2. Discussion of Braunton's Milk-vetch

Braunton's milk-vetch is a perennial herb that occurs in CSS, chaparral, closed-cone coniferous forest, and valley and foothill grassland. It is usually found on granite, limestone, or gravelly clay soils in disturbed areas that range from 13 to 2,100 ft in elevation. This species is federally listed as endangered and is a CNPS CRPR 1B species.

4.2.2.1. Survey Results

Botanical surveys conducted for this species in 2011 during the appropriate blooming period (March–July) and in August 2013 and May 2014 were negative. Therefore, the species is considered absent from the BSA. The nearest known population of Braunton's milk-vetch was identified in the main channel of Coal Canyon in August 2003 in the State right-of-way for SR-91, but was impacted during subsequent flood events (communication with Karen Drewe, Caltrans Biologist). It is difficult to determine the complete distribution of Braunton's milk-vetch due to its need for heat or physical scarification for seeds to germinate. Furthermore, based on focused special-status species survey results conducted for the Mountain Park Project in 2001 and 2003 (BonTerra 2005), results were negative for this special-status plant species in the recently added proposed slope grading area outside of the original BSA.

In December 2006, the USFWS designated critical habitat for Braunton's milk-vetch. There are six critical habitat units totaling approximately 3,300 ac found to be essential to the conservation of this species (USFWS 2006). The closest critical

habitat unit is Unit 6, which is just outside of the BSA and outside of the direct disturbance limits for the Proposed Project. Unit 6 is south of the City of Yorba Linda in Gypsum and Coal Canyons. It consists of 832 ac, 589 ac of which are in Chino Hills State Park and the Coal Canyon Ecological Reserve, with the remaining acreage on private land. This unit includes several plant locations that are part of a larger population complex. Unit 6 is in a relatively large area that is isolated from urban development and provides genetic connectivity among plants found at several of the locations. It is believed that this unit supports a large seed bank based on a post-fire germination that occurred in 2003.

4.2.2.2. Project Impacts

Although the Proposed Project is not expected to directly impact any designated critical habitat for this species, the disturbance limits are adjacent to Braunton's milk-vetch-designated critical habitat, and the Project may cause temporary indirect impacts to designated critical habitat during construction due to accumulated dust on the leaves of any Braunton's milk-vetch plants that may be present.

4.2.2.3. Avoidance and Minimization Efforts

This species is considered absent from the BSA due to lack of suitable habitat; however, Braunton's milk-vetch designated critical habitat is adjacent to the BSA.

- To the greatest extent possible, disturbance limits in proximity to the Braunton's milk-vetch critical habitat will be conveyed to the engineering team so that measures can be taken to minimize potential indirect impacts. Steps taken during the final design phase will include reducing the lateral work limits to avoid sensitive habitat and that construction staging areas in areas that have been previously disturbed or developed. All Proposed Project disturbance limits adjacent to critical habitat will be delineated as ESAs during construction.
- ETC Final EIR and Final EIS Measures B-8, B-10, and B-11 listed in Section 4.1.2.3, Avoidance and Minimization Efforts, for CSS habitat are also applicable to Braunton's milk-vetch.

4.2.2.4. Compensatory Mitigation

Because this species is considered absent from the BSA and indirect impacts to designated critical habitat are limited or avoidable, no compensatory mitigation is required.

4.2.2.5. Cumulative Impacts

Because this species and designated critical habitat for this species is absent from the BSA, it is unlikely that the Project would contribute to cumulative impacts to this species.

4.2.3. Discussion of Thread-Leaved Brodiaea

Thread-leaved brodiaea is a perennial, bulbiferous herb, which occurs in chaparral openings, CSS, valley and foothill grassland, cismontane woodland, and vernal pools, from approximately 80 to 2,850 ft in elevation. Populations of thread-leaved brodiaea are typically found on flat or gently sloping grassland areas with clay soils, surrounded by shrubland. This species is federally listed as threatened and State-listed as endangered. It is also a CNPS CRPR 1B species.

4.2.3.1. Survey Results

Botanical surveys conducted for this species in 2011 during the appropriate blooming period (May–June) and in August 2013 and May 2014 were negative. Critical habitat was designated for thread-leaved brodiaea on February 8, 2011, but there is no designated critical habitat for thread-leaved brodiaea within the BSA. There are no recorded populations of thread-leaved brodiaea in the Project vicinity. Furthermore, based on focused special-status species survey results conducted for the Mountain Park Project in 2001 and 2003 (BonTerra 2005), results were negative for this special-status plant species in the recently added proposed slope grading area outside of the original BSA. Therefore, this species is considered absent or unlikely within the BSA.

4.2.3.2. Project Impacts

Despite direct temporary and permanent impacts to approximately 53 ac of chaparral openings, CSS, and grassland vegetation in the BSA, any potentially suitable habitat impacts may be minimal for this species. Because this species is considered absent or unlikely within the BSA, the Proposed Project is not expected to substantially impact this species.

4.2.3.3. Avoidance and Minimization Efforts

The following measure will be incorporated to avoid and minimize impacts to thread-leaved brodiaea:

- Preconstruction surveys are recommended. If the species is found during preconstruction surveys, the measure below and stated in Section 4.2.5.3 for the Coulter's matilija poppy shall be conducted to avoid impacts to this species.

- Prior to clearing or construction, highly visible barriers will be installed around the protected zone of any thread-leaved brodiaea and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 ft outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby thread-leaved brodiaea. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where thread-leaved brodiaea are adjacent to planned grading activities.

4.2.3.4. Compensatory Mitigation

Because this species is considered absent or unlikely present within the BSA, no compensatory mitigation is required.

4.2.3.5. Cumulative Impacts

Because this species is considered absent or unlikely present within the BSA, it is unlikely that the Proposed Project would contribute to cumulative impacts to this species.

4.2.4. Discussion of San Fernando Valley Spineflower

San Fernando Valley spineflower is an annual herb that occurs in coastal scrub and valley and foothill grassland, usually found in sandy soils. Elevations range from approximately 450 to 3,660 ft. This species is a federal candidate and State-listed as endangered. It is also a CNPS CRPR 1B species.

4.2.4.1. Survey Results

Botanical surveys conducted for this species in 2011 during the appropriate blooming period (April–June) and in August 2013 and May 2014 were negative. The only recorded observation of San Fernando Valley spineflower in the Project Vicinity is described as being in the hills near Santa Ana in 1902. Subsequent searches for this population have been unsuccessful. Therefore, this species is considered absent from the BSA. Furthermore, based on focused special-status species survey results conducted for the Mountain Park Project in 2001 and 2003 (BonTerra 2005), results were negative for this special-status plant species in the recently added proposed slope grading area outside of the original BSA.

4.2.4.2. Project Impacts

Because this species is considered absent from the BSA, the Proposed Project is not expected to impact this species.

4.2.4.3. Avoidance and Minimization Efforts

Because this species is considered absent from the BSA, no avoidance and minimization efforts are required.

4.2.4.4. Compensatory Mitigation

Because this species is considered absent from the BSA, no compensatory mitigation is required.

4.2.4.5. Cumulative Impacts

Because this species is considered absent from the BSA, it is unlikely that the Proposed Project would contribute to cumulative impacts to this species.

4.2.5. Discussion of Coulter's Matilija Poppy

Coulter's Matilija poppy is not federally and/or State listed and has no official status. However, Coulter's Matilija poppy merits consideration because of its relatively limited distribution in California. Coulter's Matilija poppy is a perennial shrub that grows to up to 8 ft tall. It has large paper mâché-like flowers that are white with a yellow center. It occurs in CSS and chaparral habitats up to 4,000 ft in elevation. This species is a CNPS CRPR 4 species.

4.2.5.1. Survey Results

Suitable habitat exists for this species in the BSA and it was observed in the BSA during the August 2013 and May 2014 botanical surveys. Appendix A shows the six general locations where Coulter's Matilija poppies were observed (Sheets 7 and 8 of Appendix A). During the focused surveys in 2013, approximately 100 individuals were observed south of SR-91, east of SR-241. Two additional individuals were observed approximately 0.25 mi farther east. In spring 2014, poppies were found at these 2013 locations, with 45 additional individuals found in the vicinity. In 2013 and 2014, a total of 147 plants were observed.

4.2.5.2. Project Impacts

Although the Coulter's Matilija poppies are located outside of the permanent impacts boundaries for the Proposed Project, impacts may occur through the complete removal and/or heavy encroachment into several of the populations. Although the plants occur in the slope area south of SR-91, and any temporary impact areas would

be revegetated after construction, these populations may be partially and/or fully removed during soil disturbance. To the extent feasible, these populations would be protected in place, once the full extent of the soil disturbance is known. Nevertheless, it is likely that at least some of these populations would be permanently removed by the Proposed Project. While some or all of these individuals may be permanently impacted by the Proposed Project, even the complete removal of a portion of these populations is not expected to substantially impact the long-term viability of this species as it is a CNPS CRPR 4 species that is growing in marginal quality habitat adjacent to SR-91.

Appendix J, Project Impacts to Biological Resources, illustrates where the Project would impact Coulter's Matilija poppies.

4.2.5.3. Avoidance and Minimization Efforts

The following measure will be incorporated to avoid and minimize impacts to Coulter's Matilija poppies:

- Prior to clearing or construction, highly visible barriers will be installed around the protected zone of any Coulter's Matilija poppies and designated as an ESA to be preserved to the extent feasible. The protected zone will extend 5 ft outside of the vegetation edge. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby Coulter's Matilija poppies. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where Coulter's Matilija poppies are adjacent to planned grading activities.

4.2.5.4. Compensatory Mitigation

Coulter's Matilija poppy within the Project boundaries is not protected by any federal, State, or local regulations, and Project impacts to this CNPS CRPR 4 species are relatively limited. Therefore, no compensatory mitigation is required.

4.2.5.5. Cumulative Impacts

Coulter's Matilija poppies are somewhat numerous within and adjacent to the BSA, and the Proposed Project is not expected to contribute more than incrementally to the cumulative loss of this species and its potential habitat.

4.2.6. Discussion of Southern California Black Walnut

Southern California black walnut (California walnut) is not federally and/or State-listed and has no official status. However, California walnut merits consideration under CEQA because of the relatively limited distribution of California walnut woodland and it is a CNPS CRPR 4 species. California walnut is only found in Southern California. Recent construction has removed this habitat in many areas, and its future is uncertain. California walnut prefers very loose, moist soil on steep hillsides with northern and eastern exposures at elevations below 900 ft, although it is not confined to these preferences. California walnut occurs within many other plant communities and is often a component of grassland, CSS, chaparral, riparian woodland, oak woodland, and mixed canyon woodland. This species is a CNPS CRPR 4 species.

4.2.6.1. Survey Results

California walnuts were observed in the BSA during botanical surveys conducted in 2011, 2013, and 2014. Appendix A (Sheets 5 and 6) shows the locations where California walnuts were observed.

- Approximately three individual California walnuts were observed in the median of the SR-241/SR-91 junction, specifically the median in the north end of SR-241 (Sheet 6 of Appendix A). All of these individuals were saplings less than 5 ft tall, with trunk diameters less than 5 in.
- Approximately 10 individuals were observed north of SR-91, adjacent to the S-91 westbound off-ramp at Gypsum Canyon Road (Sheet 6 of Appendix A).
- Approximately 10 to 20 scattered mature individuals were observed on the north side of a sound wall northwest of the SR-91/Gypsum Canyon Road interchange adjacent to the Canyon RV Park (Sheets 5 and 6 of Appendix A).

4.2.6.2. Project Impacts

The Proposed Project may result in permanent direct impacts to the California walnuts located in the median of the SR-241/SR-91 junction. Permanent impacts may include complete removal, heavy encroachment, or extensive branch removal that may have substantial detrimental impacts to the long-term viability of the trees due to the placement of the overhead connector. The three saplings in this area would be protected in place, to the extent feasible. While these three saplings may not be permanently impacted by the Proposed Project, the complete removal of these three saplings is not expected to substantially impact the long term viability of this species.

The trees at the Gypsum Canyon off-ramp and those at the adjacent Canyon RV Park would not be directly impacted by the Proposed Project because they are outside of the temporary impact area. There may be temporary indirect impacts to the Gypsum Canyon off-ramp trees due to potential fuel spills from construction equipment and activities of equipment or personnel outside designated construction areas and ESAs in the vicinity of the trees. Permanent indirect impacts due to such things as increased storm water runoff, traffic, litter, or through enhancing the germination and proliferation of nonnative invasive plant species is highly unlikely due to the location of these walnuts adjacent to the Gypsum Canyon off-ramp. The Gypsum Canyon off-ramp and Canyon RV Park walnut trees are outside of the Project Area and some are protected by an existing sound wall.

Appendix J, Project Impacts to Biological Resources, illustrates the location of the California walnuts and where the Project would impact existing trees.

4.2.6.3. Avoidance and Minimization Efforts

California walnuts are not protected by any federal, State, or other local regulations, other than that provided under CEQA. The following measure will be incorporated to avoid and minimize impacts to California walnuts:

- Prior to clearing or construction, highly visible barriers will be installed around the protected zone of any California walnut tree and designated as an ESA to be preserved for those trees not within the footprint of Project structures or areas of ground disturbance. The protected zone will extend 5 ft outside of the drip line or 15 ft from the trunk of the tree, whichever is greater. No grading or fill activity of any type will be permitted within the ESA. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby California walnuts. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESA. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where trees are adjacent to planned grading activities.

4.2.6.4. Compensatory Mitigation

California walnuts are not protected by any federal, State, or local regulations. The California walnuts that may be permanently impacted by the Proposed Project consist of a few individual saplings located within a median; these three saplings are not situated within a natural walnut woodland setting. While these three saplings may be

permanently impacted by the Proposed Project, the complete removal of these three saplings is not expected to substantially impact the long term viability of this species since they are a CNPS CRPR 4 species, young trees, and they occur outside a native woodland habitat. Therefore, potential removal of a few individuals by the Proposed Project does not require any compensatory mitigation. However, these saplings will be assessed at the time of construction and relocated within the right-of-way, if feasible.

4.2.6.5. Cumulative Impacts

California walnuts are not numerous within and adjacent to the BSA, and those few individuals that may be subject to impacts from the Proposed Project are saplings situated with a median. Therefore, the Proposed Project's contribution to cumulative impacts to this species is not substantial.

4.2.7. Discussion of Other Special-Status Coastal Sage Scrub and Chaparral Plant Species

Other special-status species with the potential to occur in CSS and chaparral habitats within the BSA include chaparral sand-verbena, Plummer's mariposa lily (CNPS CRPR 4.2), intermediate mariposa lily, many-stemmed dudleya, Tecate cypress, vernal barley, intermediate monardella, felt-leaved monardella, chaparral nolina, Allen's pentachaeta, white rabbit-tobacco, rayless ragwort, and San Bernardino aster.

4.2.7.1. Survey Results

Some suitable habitat exists on site that could support these species. None of these species was found during botanical surveys conducted in 2011, performed during the appropriate blooming period for these species, or otherwise, when they would have been observed. In addition, many of these species would have been observed, if present, during botanical surveys conducted in the summer of 2013 and in May 2014. Furthermore, based on focused special-status species survey results conducted for the Mountain Park Project in 2001 and 2003 (BonTerra 2005), results were negative for special-status plant species in the recently added proposed slope grading area outside of the original BSA. Therefore, all of these species are considered absent from the BSA.

4.2.7.2. Project Impacts

The Proposed Project would not be expected to impact any of these species because they are considered absent from the BSA.

4.2.7.3. Avoidance and Minimization Efforts

No avoidance and minimization measures are warranted because these species are considered absent from the BSA.

4.2.7.4. Compensatory Mitigation

No compensatory mitigation is warranted because these species are considered absent from the BSA.

4.2.7.5. Cumulative Impacts

Because these species are considered absent from the BSA, it is unlikely that the Proposed Project would contribute to cumulative impacts to them.

4.2.8. Discussion of Special-Status Grassland and Open Habitat Plant Species

Special-status species with the potential to occur in grassland and open habitats within the BSA include Plummer's mariposa lily, intermediate mariposa lily, southern tarplant, many-stemmed dudleya, vernal barley, and San Bernardino aster.

4.2.8.1. Survey Results

Some suitable habitat exists on site that could support these species. None of these species was found during botanical surveys conducted in 2011, performed during the appropriate blooming period for these species, or otherwise, when they would have been observed. In addition, some of these species would have been observed, if present, during botanical surveys conducted in the summer of 2013 and May 2014. Furthermore, based on focused special-status species survey results conducted for the Mountain Park Project in 2001 and 2003 (BonTerra 2005), results were negative for special-status plant species in the recently added proposed slope grading area outside of the original BSA. Therefore, all of these species are considered absent from the BSA.

4.2.8.2. Project Impacts

The Proposed Project would not be expected to impact any of these species because they are considered absent from the BSA.

4.2.8.3. Avoidance and Minimization Efforts

No avoidance and minimization measures are warranted because these species are considered absent from the BSA.

4.2.8.4. Compensatory Mitigation

No compensatory mitigation is warranted because these species are considered absent from the BSA.

4.2.8.5. Cumulative Impacts

Because these species are considered absent from the BSA, it is unlikely that the Proposed Project would contribute to cumulative impacts to them.

4.3. Special-Status Animal Species Occurrences

A total of 14 of the 74 special-status animal species with reported occurrences within the vicinity of the BSA are federal- and/or State-listed as threatened, endangered, proposed, or candidate species: San Diego fairy shrimp, Quino checkerspot butterfly, Delhi Sands flower-loving fly, Riverside fairy shrimp, Santa Ana sucker, arroyo toad, western yellow-billed cuckoo, southwestern willow flycatcher, Swainson's hawk, bald eagle, CAGN, least Bell's vireo, tricolored blackbird, and Townsend's big-eared bat. In addition, golden eagles, white-tailed kites, and ringtails are considered fully protected species by the State of California.

As noted in Chapter 3, suitable habitat for the majority of these species including San Diego fairy shrimp, Quino checkerspot butterflies, Delhi Sands flower-loving fly, Riverside fairy shrimp, Santa Ana suckers, arroyo toads, western yellow-billed cuckoos, southwestern willow flycatchers, Swainson's hawk white-tailed kites, least Bell's vireos, tricolored blackbird, and ringtails is not present within the BSA. Therefore, these species are not discussed further. Specifically, the aquatic species (Santa Ana sucker) and riparian species (arroyo toad, western yellow-billed cuckoo, southwestern willow flycatcher, and least Bell's vireo) would not be impacted since, as mentioned in Section 3.1.3.3 (Aquatic Resources), the portions of the Proposed Project on westbound SR-91 do not include major roadway alterations or any cut or fill. The work in these areas is limited to restriping of existing pavement along the SR-91 lanes and a shift of the median barrier to accommodate the alignment of the Proposed Project. Similarly, any riparian vegetation within the BSA is not expected to be used for breeding by the State and federally listed riparian bird species mentioned above.

The results of surveys, critical habitat discussion, avoidance and minimization measures, Project impacts, compensatory mitigation, and cumulative impacts for the remaining listed wildlife species are discussed below. In addition, other special-status wildlife species with potential of occurring within the BSA are discussed below.

4.3.1. Discussion of Golden Eagle

The golden eagle is a California fully protected Species. The golden eagle is found throughout much of California. It typically occurs in rolling foothills, mountain areas, sage-juniper flats, and desert habitats. The golden eagle is known to have formerly nested within Gypsum Canyon south of the SR-91/SR-241 junction.

4.3.1.1. Survey Results

The golden eagle was not observed in the BSA during the 2011, 2013, or 2014 various field surveys, and there is a limited amount of suitable foraging habitat present for this species in the BSA. No suitable nesting habitat is located in the BSA, but may be present outside of the BSA.

4.3.1.2. Project Impacts

The Proposed Project is not expected to permanently impact any golden eagles due to the low probability of occurrence in the BSA and the lack of suitable nesting habitat. Because of the existing highways, and there being higher quality foraging habitat nearby, it is unlikely golden eagles are currently foraging in the BSA. Therefore, there is an incremental probability the Proposed Project may temporarily redirect foraging golden eagles away from the BSA during construction.

4.3.1.3. Avoidance and Minimization Efforts

Because no golden eagles were observed in the BSA, no suitable nesting habitat is located in the BSA, and there is limited foraging opportunity in the BSA, there is a low probability of these occurring in the BSA. Therefore, no avoidance and minimization efforts are warranted.

4.3.1.4. Compensatory Mitigation

Because there is no suitable nesting habitat and there is a low probability of golden eagles occurring in the BSA, the Proposed Project is not expected to directly impact this species. Therefore, specific compensatory mitigation is not warranted.

4.3.1.5. Cumulative Impacts

Because the Proposed Project is located within or adjacent to State right-of-way for an existing highway and because of the lack of suitable nesting habitat for golden eagles in the BSA, the Proposed Project is not expected to contribute to the cumulative impacts to this species.

4.3.2. Discussion of Bald Eagle

The bald eagle is listed as endangered by the State. It was federally delisted on July 9, 2007. The bald eagle nests in large trees and on platforms. Nests are commonly within 1 mi of water. It roosts communally in winter.

4.3.2.1. Survey Results

The bald eagle was not observed in the BSA during the 2011, 2013, or 2014 various field surveys, and there is a limited amount of suitable foraging habitat present for this species in the BSA. No suitable nesting habitat is located in the BSA, but may be present outside of the BSA.

4.3.2.2. Project Impacts

The Proposed Project is not expected to directly impact any bald eagles due to the low probability of occurrence in the BSA and the lack of suitable nesting habitat. Because of the existing highways and the presence of higher quality foraging habitat nearby, it is unlikely bald eagles are currently foraging in the BSA. Therefore, there is an incremental probability that the Proposed Project may temporarily redirect foraging bald eagles away from the BSA during construction.

4.3.2.3. Avoidance and Minimization Efforts

Because no bald eagles were observed in the BSA, no suitable nesting habitat is located in the BSA, and there is limited foraging opportunity in the BSA, there is a low probability of these occurring in the BSA. Therefore, no avoidance and minimization efforts are warranted.

4.3.2.4. Compensatory Mitigation

Because there is no suitable nesting habitat and there is a low probability of bald eagles occurring in the BSA, the Proposed Project is not expected to directly impact this species. Therefore, specific compensatory mitigation is not warranted.

4.3.2.5. Cumulative Impacts

Because the Proposed Project is located within or adjacent to State right-of-way for an existing highway and because of the lack of suitable nesting habitat for bald eagles in the BSA, the Proposed Project is not expected to contribute to the cumulative impacts to this species.

4.3.3. Discussion of Western Yellow-billed Cuckoo

The western yellow-billed cuckoo is listed as endangered by the State and a threatened species by the USFWS. This cuckoo is a migratory songbird that nests and

forages in large, dense riparian habitats in shallow water habitats with cottonwood trees particularly important for foraging. Western yellow-billed cuckoo usually defend very large breeding territories ranging in size from 25 to 99 ac. In Southern California, the breeding season of the western yellow-billed cuckoo generally extends from May through September.

Western yellow-billed cuckoo was listed as threatened by the USFWS in October 2014 (Federal Register 79(192):59992–60038; USFWS 2014b). In August 2014, the USFWS proposed to designate critical habitat for the western population segment of the yellow-billed cuckoo (Federal Register 79(158):48548–48652; USFWS 2014a) with the closest critical habitat approximately 4 mi northeast in the Prado Basin and a portion of the Santa Ana River.

4.3.3.1. Survey Results

Western yellow-billed cuckoo was not observed in the BSA during the 2011, 2013, or 2014 various field surveys, and there is no suitable foraging or nesting habitat present for this species in the BSA. However, extensive foraging and nesting habitat is present outside of the BSA in the Santa Ana River to the north and the Prado Basin to the northeast.

4.3.3.2. Project Impacts

The Proposed Project is not expected to directly or indirectly impact any western yellow-billed cuckoo. Direct impacts to this species are not expected since it is not expected within the BSA due to lack of suitable nesting habitat and foraging opportunities. Indirect project impacts (noise, lighting, and dust) from construction and operation in the freeway median of an already busy facility, and thus very minor increases in temporary noise levels, are not expected to change any potential habitat uses by this species in the vicinity of the BSA. For example, the Noise Study Report for the Project found that noise levels in Canyon RV Park adjacent to the existing freeway are expected to increase by 1 dBA or less when compared to the No Build Condition. Overall, the presence of foraging and nesting habitat in the Santa Ana River and the Prado Basin make it unlikely that western yellow-billed cuckoo would be affected by the Project.

4.3.3.3. Avoidance and Minimization Efforts

Because no western yellow-billed cuckoo were observed in the BSA, no foraging opportunities are expected, and no suitable nesting habitat is present in the BSA, this

species is not expected to occur in the BSA. Therefore, no avoidance or minimization efforts are warranted.

4.3.3.4. Compensatory Mitigation

Because western yellow-billed cuckoo is not expected to occur in the BSA, the Proposed Project is not expected to directly or indirectly impact this species. Therefore, specific compensatory mitigation is not warranted.

4.3.3.5. Cumulative Impacts

Because the Proposed Project is located within or adjacent to State right-of-way for an existing highway and because of the lack of suitable nesting and foraging habitat for western yellow-billed cuckoo in the BSA, the Proposed Project is not expected to contribute to the cumulative impacts to this species.

4.3.4. Discussion of Southwestern Willow Flycatcher

Southwestern willow flycatcher is listed as an endangered species by State and federal agencies. This flycatcher is a migratory songbird that typically nests and forages in dense riparian habitats with a patchy understory near surface water or saturated soil. Willow flycatchers usually defend breeding territories ranging in size from 2.7 to 5.7 ac (Sogge et al. 2010). In Southern California, the breeding season of the southwestern willow flycatcher generally extends from early-May with departures from the territory in mid-August to early-September.

Southwestern willow flycatcher was listed as endangered by the USFWS in 1995. In 1997, the Southwestern willow flycatcher was USFWS designated critical habitat and re-designated critical habitat in 2005 (Federal Register 70:60886–61009; USFWS 2005a).

4.3.4.1. Survey Results

Southwestern willow flycatcher was not observed in the BSA during the 2011, 2013, or 2014 various field surveys, and there is a limited amount of suitable foraging habitat present for this species in the BSA. No suitable nesting habitat is located in the BSA, but is present outside of the BSA in the Santa Ana River to the north and the Prado Basin to the northeast.

4.3.4.2. Project Impacts

The Proposed Project may directly and indirectly impact southwestern willow flycatcher. Direct impacts to this species are expected due to loss of a small amount (approximately 1 ac of chaparral) of potential foraging habitat within the BSA;

however, there is a lack of suitable nesting habitat. Indirect project impacts (noise, lighting, and dust) from construction and operation in the freeway median of an already busy facility, and thus very minor increases in temporary noise levels, are not expected to substantially change any potential habitat uses by this species in the vicinity of the BSA. For example, the Noise Study Report for the Project found that noise levels in the Canyon RV Park adjacent to the existing freeway are expected to increase by 1 dBA or less when compared to the No Build Condition. Overall, the presence of higher quality foraging habitat in the Santa Ana River and the Prado Basin make it unlikely that southwestern willow flycatcher would be substantially affected by the Project. Direct impacts to potential foraging habitat are expected, and there is an incremental probability that the Proposed Project may temporarily redirect foraging southwestern willow flycatcher away from the BSA during construction. With the implementation of avoidance and minimization measures and existence of more suitable habitat in the nearby Santa Ana River and Prado Basin, the loss of potentially suitable foraging habitat would have minimal or no effect on the southwestern willow flycatcher.

4.3.4.3. Avoidance and Minimization Efforts

Because no southwestern willow flycatcher were observed in the BSA, no suitable nesting habitat is located in the BSA. There is limited foraging opportunity in the BSA, and there is a low probability for occurrence in the BSA. The following measure will be incorporated to avoid and minimize impacts to southwestern willow flycatcher:

- As stated in Section 5.7: Migratory Bird Treaty Act, prior to vegetation clearing or construction within the species foraging habitat areas during the nesting period, a qualified biologist will conduct a preconstruction survey to identify the locations of any individuals. If foraging individuals are found within the vegetation-clearing area, the monitoring biologist will flush the species prior to brush-clearing and earth-moving activities. No additional avoidance and minimization efforts are warranted.

4.3.4.4. Compensatory Mitigation

Because there is no suitable nesting habitat and there is a low probability of southwestern willow flycatcher occurring in the BSA, the Proposed Project is not expected to directly impact this species with implementation of the Avoidance and Minimization measures. Therefore, specific compensatory mitigation is not warranted.

4.3.4.5. Cumulative Impacts

Because the Proposed Project is located within or adjacent to State right-of-way for an existing highway and because of the lack of suitable nesting habitat and limited foraging habitat for southwestern willow flycatcher in the BSA, the Proposed Project is not expected to contribute to the cumulative impacts to this species.

4.3.5. Discussion of Least Bell's Vireo

Least Bell's vireo was listed as an endangered species by State and federal agencies in 1980 and 1986, respectively, and critical habitat was designated in 1994 (USFWS 1986, 1994). Least Bell's vireo is a small migratory songbird that nests in Southern California. This species is a summer resident of Southern California and breeds in willow thickets and other dense, low riparian growths in lowlands and lower portions of canyons. Approximately 38,000 ac of critical habitat were designated for the least Bell's vireo in 1994. The critical habitat occurs in 10 areas throughout Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, and San Diego Counties.

4.3.5.1. Survey Results

Least Bell's vireo was not observed in the BSA during the 2011, 2013, or 2014 various field surveys, and there is a limited amount of suitable foraging habitat present for this species in the BSA. No suitable nesting habitat is located in the BSA, but is present outside of the BSA in the Santa Ana River to the north and the Prado Basin to the northeast.

4.3.5.2. Project Impacts

The Proposed Project may directly and indirectly impact least Bell's vireo. Direct impacts to this species are expected due to loss of a small amount (approximately 1 ac of chaparral) of potential foraging habitat within the BSA; however, there is a lack of suitable nesting habitat. Indirect project impacts (noise, lighting, and dust) from construction and operation in the freeway median of an already busy facility, and thus very minor increases in temporary noise levels, are not expected to substantially change any potential habitat uses by this species in the vicinity of the BSA. For example, the Noise Study Report for the Project found that noise levels in the Canyon RV Park adjacent to the existing freeway are expected to increase by 1 dBA or less when compared to the No Build Condition. Overall, the presence of higher quality foraging habitat in the Prado Basin and the Santa Ana River make it unlikely that least Bell's vireo would be substantially affected by the Project. Direct impacts to potential foraging habitat are expected and there is an incremental probability that the Proposed Project may temporarily redirect foraging Least Bell's vireo away from the

BSA during construction. With the implementation of avoidance and minimization measures and existence of more suitable habitat in the nearby Santa Ana River and Prado Basin, the loss of potentially suitable foraging habitat would have a minimal or no effect on least Bell's vireo.

4.3.5.3. Avoidance and Minimization Efforts

Because no least Bell's vireo were observed in the BSA, no suitable nesting habitat is located in the BSA. There is limited foraging opportunity in the BSA, and there is a low probability for occurrence in the BSA. The following measure will be incorporated to avoid and minimize impacts to least Bell's vireo:

- As stated in Section 5.7: Migratory Bird Treaty Act, prior to vegetation clearing or construction within the species foraging habitat areas during the nesting period, a qualified biologist will conduct preconstruction survey to identify the locations of any individuals. If foraging individuals are found within the vegetation clearing area, the monitoring biologist will flush the species prior to brush-clearing and earth-moving activities. No additional avoidance and minimization efforts are warranted.

4.3.5.4. Compensatory Mitigation

Because there is no suitable nesting habitat and there is a low probability of least Bell's vireo occurring in the BSA, the Proposed Project is not expected to directly impact this species with implementation of the Avoidance and Minimization measures. Therefore, specific compensatory mitigation is not warranted.

4.3.5.5. Cumulative Impacts

Because the Proposed Project is located within or adjacent to State right-of-way for an existing highway and because of the lack of suitable nesting habitat and limited foraging habitat for least Bell's vireo in the BSA, the Proposed Project is not expected to contribute to the cumulative impacts to this species.

4.3.6. Discussion of Coastal California Gnatcatcher

The CAGN is a nonmigratory songbird that typically nests and forages in moderately dense stands of CSS below 2,500 ft in Southern California. Gnatcatchers usually defend breeding territories ranging in size from 2 to 14 ac and occupy home ranges that vary in size from 13 to 39 ac. The breeding season of the CAGN generally extends from February 15 through July 15, but can occur to September 1. After the chicks have fledged, juveniles may remain closely associated with their parents for up

to several months and may disperse up to 6.2 mi from their natal territory (Atwood and Bontrager 2001).

The CAGN was listed as threatened by the USFWS in March 1993. On February 7, 2000, approximately 513,650 ac in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties were designated as critical habitat for the CAGN (65 Federal Register [FR] 63680). New boundaries of critical habitat totaling 495,795 ac were proposed in April 2003 (68 FR 20228). On December 19, 2007, the USFWS designated 197,303 ac as revised final critical habitat (72 FR 72010). This revised final rule excludes lands within approved HCP areas, relieving additional regulatory burden on property owners who might be imposed upon by critical habitat designation. Appendix A shows the location of designated critical habitat relative to the BSA.

4.3.6.1. Survey Results

Focused surveys were conducted by LSA Biologists Richard Erickson, Eric Krieg, and Ingri Quon between April 14 and June 9, 2011, to determine the presence of CAGN within the BSA (Appendix D). CAGN were observed during the surveys in two locations, as illustrated in Appendix A. One location consisted of a lone male located just outside of the BSA on the west side of SR-241, approximately 2,000 ft south of the connector on-ramp to SR-91 (Sheet 3 of Appendix A). The other location was in the median of the SR-241/SR-91 junction (Sheets 4 and 6 of Appendix A). This location consisted of a pair of adults who successfully hatched six young from two nests. Although surveys were concluded before the second nest had fledged, all of the young in the first nest fledged successfully. At least one CAGN was observed in this location during plant surveys conducted in 2013. Although the age and sex of the CAGN were not determined at that time, this observation demonstrates the median at the north end of SR-241 is an established territory that continues to be used. No CAGN were detected along SR-91 in the vicinity of the Proposed Project.

The CSS within the CAGN-designated critical habitat contains constituent elements and is, therefore, subject to consultation provisions under FESA. In addition to CSS, the chaparral and nonnative grassland vegetation communities also contain constituent elements of CAGN critical habitat. Although chaparral and nonnative grassland are typically not suitable for nesting CAGN, they may be used for foraging and dispersal and are, therefore, also subject to consultation provisions under FESA.

4.3.6.2. Project Impacts

NCCP/HCP Plan Areas

Direct and indirect impacts to CAGN and designated CAGN critical habitat are expected to occur as a result of Project implementation. The CAGN is likely to occur within or near the disturbance limits at the time of construction. Take of CAGN within the NCCP/HCP Plan Area is expected to occur through the permanent loss of approximately 2.98 ac (coastal sage scrub [2.61 ac], nonnative grassland [0.37 ac]) and temporary loss of approximately 11.85 ac (coastal sage scrub [11.47 ac], nonnative grassland [0.38 ac]) of occupied habitat in the median of the SR-241/SR-91 junction. Take of designated CAGN critical habitat within the NCCP/HCP Plan Area, regardless of occupation, is also expected to occur through the permanent loss of approximately 19.72 ac and temporary loss of approximately 12.80 ac, which includes permanent loss of approximately 0.56 ac and temporary loss of approximately 0.09 ac on the County parcel south of SR-91 (Table 4.2, below; Appendix J, Project Impacts to Biological Resources map). This critical habitat area is along SR-91 at the eastern end of the Project.

As a covered project, the NCCP/HCP Implementation Agreement (page 33) specifies take authorization within the right-of-way of the SR-241 and SR-91 corridors, which includes the known territory location of the CAGN within the Project Area.

Additionally, the NCCP/HCP Implementation Agreement (1996; page 127) specifically states that take authorization for TCA, as noted in the Biological Opinion (1-6-94-F-17) for the ETC, includes its junction with SR-91. However, the Proposed Project is expected to go through the Section 7 consultation process between Caltrans and the USFWS to comply with FESA in order to ensure consistency with these documents. Specifically, the USFWS verification and acceptance of the mitigation components for impacts to designated critical habitat within NCCP/HCP areas shall occur during Section 7 consultation since the Implementation Agreement and the Biological Opinion were completed prior to designation of coastal California gnatcatcher critical habitat.

Non-NCCP/HCP Plan Areas

Direct and indirect impacts to designated CAGN critical habitat are expected to occur as a result of Project implementation (Appendix J: Project Impacts to Biological Resources). Designated CAGN critical habitat is along SR-91 at the eastern end of the

Table 4.2: Potential Impacts to Coastal California Gnatcatcher Occupied Habitat and Designated Critical Habitat Within and Outside the NCCP/HCP Plan Area[1]

Coastal California Gnatcatcher Habitat[1]	Within the NCCP/HCP Plan Area[4]				Outside the NCCP/HCP Plan Area			
	Within Caltrans Right-of-Way		Outside Caltrans Right-of-Way		Within Caltrans Right-of-Way		Outside Caltrans Right-of-Way	
	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres
Occupied Habitat								
Coastal Sage Scrub	11.47	2.61	0.00	0.00	0.00	0.00	0.00	0.00
Chaparral	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonnative Grassland	0.38	0.37	0.00	0.00	0.00	0.00	0.00	0.00
Total Occupied Habitat	**11.85**	**2.98**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Designated Critical Habitat[3]								
Coastal Sage Scrub	2.60	1.34	0.04	0.39	0.00	0.00	0.00	0.00
Chaparral	0.076[5]	0.11	0.004[5]	0.17	0.18	0.00	0.00	0.00
Nonnative Grassland	4.85	0.96	0.00	0.00	0.87	0.00	0.00	0.00
Oak Woodland[2]	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Ruderal[2]	3.12	3.51	0.00	0.00	0.58	0.00	0.00	0.00
Developed[2]	2.06	13.24	0.00	0.00	6.33	1.18	0.00	0.00
Total Designated Critical Habitat[2]	**12.71**	**19.16**	**0.09**	**0.56**	**7.96**	**1.18**	**0.00**	**0.00**
Grand Total	**24.56**	**22.14**	**0.09**	**0.56**	**7.96**	**1.18**	**0.00**	**0.00**

[1] This table represents vegetation in the median of SR-241 (within the NCCP/HCP Plan Area) where a CAGN breeding territory was found in 2011 and the designated CAGN critical habitat at the east end of the Project along SR-91.
[2] Oak Woodland, Ruderal, and Developed habitat classifications are also within Designated Critical Habitat, but are not considered suitable for use by California gnatcatchers.
[3] CAGN were not found in designated CAGN critical habitat during the 2011 focused surveys, thus the acreage areas are shown under separate headings.
[4] Some of the NCCP/HCP Plan Area also includes NCCP/HCP Existing Use Area along SR-91 (i.e., temporary impacts to coastal sage scrub include 0.03 ac).
[5] Acreage number is shown to the thousandth place (0.000) and is not a typographical error.

ac = acre/acres
CAGN = California gnatcatcher
Caltrans = California Department of Transportation
NCCP/HCP = Natural Community Conservation Plan
SR-241 = State Route 241
SR-91 = State Route 91

Project Area on the north and south sides of SR-91. There are two critical habitat areas in the BSA: one area begins approximately 1 mi east of the SR-241/SR-91 junction and continues east of the Project Area with the north portion outside of the NCCP/HCP Plan Area, while the second area overlaps the south side of the Project Area near the eastern edge of the Project Area and is within of the NCCP/HCP Plan Area and a small portion of the NCCP/HCP Existing Use Area (less than 1.5 ac).

Regardless of occupation, an effect on designated CAGN critical habitat on non-NCCP/HCP land is expected to occur on 7.96 ac (temporary impacts) and 1.18 ac (permanent impacts) of critical habitat within Caltrans right-of-way. However, all of the 1.18 ac of permanent impacts to designated critical habitat as mapped by USFWS is to areas that are developed. No impacts to CAGN critical habitat on the County parcel are anticipated (Table 4.2).

Impacts to non-NCCP/HCP areas within Caltrans right-of-way would be covered through mitigation measures in the amended or new Biological Opinion since CAGN critical habitat was not yet designated and was therefore not part of the original Biological Opinion.

Table 4.2 above shows the amount of CAGN occupied habitat and designated CAGN critical habitat that would be permanently and temporarily impacted by the Proposed Project for areas within and outside of the NCCP/HCP Plan Area.

Temporary impacts are the maximum extent expected for construction staging and access.

In addition, potential direct and indirect temporary impacts due to construction activities may occur, including the increased exposure of CAGN to noise, vibration, dust, and human presence. Construction-related noise, vibration, and dust has the potential to adversely impact CAGN in the immediate vicinity of construction activities. However, implementation of the proposed minimization measures would substantially reduce those potential adverse impacts.

4.3.6.3. Avoidance and Minimization Efforts

The avoidance and minimization measures from the NCCP/HCP discussed in Section 4.1.1.2 for the natural community CSS habitat will be implemented to avoid and minimize impacts to CAGN including those for noise, vibration, and dust impacts. Furthermore, following consultation with the USFWS, any additional measures in the amended or new Biological Opinion regarding designated CAGN critical habitat will

also be implemented. Finally, the measures below will be implemented including the lighting measure for any nighttime work.

- Prior to the commencement of grading operations or other activities involving disturbance of CSS or areas of designated CAGN critical habitat (with constituent elements), a survey will be conducted to locate CAGN within 100 ft of the outer extent of projected soil disturbance activities and the locations of any such species will be clearly marked and identified on the construction/grading plans. This buffer should be clearly marked in the field by construction personnel under the guidance of the biologist. Construction or clearing will not be conducted within the project disturbance limits adjacent to the 100 ft buffer until the biologist determines that the young have fledged or the nest is no longer active.
- Prior to clearing or construction, visible barriers will be installed around CSS and designated CAGN critical habitat (with constituent elements) adjacent to the Project footprint to designate ESAs to be preserved. No grading or fill activity of any type will be permitted within these ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within these protected zones. Silt fence barriers will be installed at the ESA boundary to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.
- A qualified biologist will monitor all construction activities for the duration of the Proposed Project in areas adjacent to ESA boundaries to flush out any wildlife species present prior to construction and to ensure that vegetation removal, best management practices (BMPs), ESAs, and all avoidance and minimization measures are properly followed.
- Shielded lighting will be used for any nighttime construction adjacent to CSS within CAGN-designated critical habitat to avoid and minimize artificial night lighting impacts.
- **ETC Final EIR and Final EIS Measure B-25:** *During site preparation and grading, the TCA shall phase operations around important habitat areas to allow for completion of nesting and breeding activities for the CAGN and raptor species occurring in oak woodland as well as willow and sycamore forested woodlands. This measure will be conducted and overseen by a qualified biologist (R9-121).*
- **ETC Final EIR and Final EIS Measure B-27:** *Grading and construction activities shall be redirected temporarily around any nesting sites for a distance*

of 500 ft for candidate and listed species of birds and at a distance of 1,000 ft for raptors during nesting and breeding seasons. In the event that a coyote, bobcat, or mountain lion den is located, grading and construction operations shall be redirected around the den for a distance of 1,000 ft. The nesting sites and dens should be resurveyed toward the end of the breeding seasons of these species to verify completion of the breeding cycle. Nests and dens that will be removed due to ETC must be removed during the nonbreeding season only.

4.3.6.4. Compensatory Mitigation

NCCP/HCP Plan Areas

Refer to Section 4.2.1.4 for a description of the compensatory mitigation for CSS habitat, which also applies to compensatory mitigation for CAGN.

The NCCP/HCP states no amendment is needed to the NCCP/HCP as long as the infrastructure allowed has no Incidental Take beyond that described and permitted for in the NCCP/HCP. However, coordination with the USFWS is required to ensure the Proposed Project is consistent with the NCCP/HCP.

Non-NCCP/HCP Plan Areas

Temporary impacts (approximately 7.96 ac; includes 6.33 ac of Developed area) and permanent impacts (1.18 ac of Developed area) to designated CAGN critical habitat are expected outside of the NCCP/HCP Plan Area. For CSS impacts to CAGN-occupied habitat or within CAGN-designated critical habitat, the proposed minimum mitigation ratio is 2:1 for permanent impacts and 1:1 for temporary impacts. This mitigation will be evaluated through coordination between Caltrans, TCA, and the USFWS. Specifically, federal Section 7 consultation between Caltrans and the USFWS will be necessary to consider potential adverse impacts to designated CAGN critical habitat within the BSA.

As of December 2014, F/ETCA has approximately 15 ac of CSS and cactus scrub mitigation land available at their Strawberry Farms habitat restoration area in the City of Irvine. A USFWS approved habitat restoration plan was prepared for this area (NewFields 2011). During email correspondence with F/ETCA on February 9, 2011 (prior to project initiation), Jonathan Snyder of USFWS conceptually agreed to the use of the Strawberry Farms area to offset impacts to CSS and cactus scrub associated with future F/ETCA projects in the County of Orange. It is proposed that the Strawberry Farms mitigation area be used as mitigation for the Proposed Project.

The Strawberry Farms mitigation area is in the Quail Hill Preserve, part of the Coastal Reserve of the Central and Coastal NCCP/HCP, and is contiguous with Bommer and Shady Canyon, adjacent open space land including the Irvine Ranch National Natural Landmark, and a portion of the Central and Coastal NCCP/HCP. Bommer and Shady Canyon connect with the Laguna Coast Wilderness Park and Crystal Cove State Park. Strawberry Farms include habitat for rare species such as coastal cactus wren and potential habitat for CAGN and many-stemmed dudleya (*Dudleya multicaulis*) (NewFields 2011).

Avoidance and minimization measures and mitigation options described in this NES for CAGN will also be acknowledged in a BA report.

4.3.6.5. Cumulative Impacts

NCCP/HCP Plan Areas

The Central and Coastal NCCP/HCP (County 1996a) was conceived, developed, and is being implemented specifically to address direct, indirect, permanent, and temporary impacts to species and habitats (including CAGN) within central and coastal Orange County, resulting from the build out of planned land use and infrastructure, including the Proposed Project. The NCCP/HCP ensures that the cumulative impacts to those species identified are effectively mitigated by assembling the Reserve System. According to the NCCP/HCP Final EIR/EIS (County 1996b; pages 9–16), the Central/Coastal NCCP/HCP is directed specifically to address reasonably foreseeable cumulative impacts of incidental take of CSS habitat on the target/Identified Species and species dependent on or associated with CSS and covered habitat at a very large subregional scale. Therefore, cumulative impacts for NEPA and CEQA purposes are addressed at the subregional level as described in Chapters 5 through 8 of the NCCP/HCP Final EIR/EIS (County 1996b).

Non-NCCP/HCP Plan Areas

An amendment to the existing Biological Opinion or new Biological Opinion following Section 7 consultation will determine the mitigation measures for any CAGN use areas in the non-NCCP/HCP Plan Area as well as mitigation measures for designated CAGN critical habitat since critical habitat was not part of the original Biological Opinion; therefore, the Proposed Project is not expected to contribute to the cumulative impacts to CAGN. Because most portions of the Project Area, including all permanent impacts to vegetation, are included in the NCCP/HCP Plan Area, the Proposed Project is not expected to contribute to cumulative impacts to CAGN within these areas.

4.3.7. Discussion of Special-Status Coastal Sage Scrub and Chaparral Animal Species

Special-status CSS and chaparral species with the potential to occur in the BSA include San Diego banded gecko, coast horned lizard, orange-throated whiptail, coastal western whiptail, silvery legless lizard, rosy boa, red-diamond rattlesnake, coast patch-nosed snake, Cooper's hawk, Allen's hummingbird, southern California rufous-crowned sparrow, Bell's sage sparrow, burrowing owl, Costa's hummingbird, Lawrence's goldfinch, lark sparrow, loggerhead shrike, black-chinned sparrow, northwestern San Diego pocket mouse, black-tailed jackrabbit, San Diego desert woodrat, and southern grasshopper mouse.

4.3.7.1. Survey Results

None of these species was observed during surveys conducted in 2011, 2013, 2014, or 2015. However, it is possible for them to move onto the site prior to construction.

4.3.7.2. Project Impacts

The Proposed Project is expected to have indirect and temporary impacts to species that occupy the CSS and chaparral natural communities through the loss of potential habitat. Table 4.3 below presents Project impacts for these plant communities within and outside the NCCP/HCP Plan Area. Furthermore, Section 4.2.1 for the CSS natural community presents avoidance and mitigation measures. As a result of the avoidance and minimization measures described above, the Proposed Project is not expected to directly impact any of these species.

4.3.7.3. Avoidance and Minimization Efforts

Because these species occupy the CSS natural community, avoidance and minimization efforts for special-status CSS and chaparral animal species are the same as those described above for the CSS natural communities and the CAGN.

4.3.7.4. Compensatory Mitigation

With implementation of the avoidance and minimization measures described above, the Proposed Project is not expected to impact these species; therefore, specific compensatory mitigation is not warranted.

4.3.7.5. Cumulative Impacts

Because these species occupy CSS and chaparral habitats, cumulative impacts are the same as those described for the CSS natural community above.

Table 4.3: Potential Impacts to Special-Status CSS and Chaparral Animal Species Habitat Within and Outside the NCCP/HCP Plan Area

Plant Community	Within the NCCP/HCP				Outside the NCCP/HCP			
	Within the Caltrans Right-of-Way		Outside the Caltrans Right-of-Way		Within the Caltrans Right-of-Way		Outside the Caltrans Right-of-Way	
	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres	Temporary Acres	Permanent Acres
Coastal Sage Scrub	29.66	10.41	1.58	3.25	0.02	0.00	0.00	0.00
Chaparral	1.37	0.72	0.00	0.17	0.21	0.00	0.00	0.00
Total	**31.03**	**11.13**	**1.58**	**3.42**	**0.23**	**0.00**	**0.00**	**0.00**

Caltrans = California Department of Transportation
CSS = coastal sage scrub
NCCP/HCP = Natural Community Conservation Plan

4.3.8. Discussion of Special-Status Grassland and Open Habitat Animal Species

Special-status grassland and open habitat species with the potential to occur in the BSA include western spadefoot, coast horned lizard, silvery legless lizard, red-diamond rattlesnake, coast patch-nosed snake, grasshopper sparrow, burrowing owl, ferruginous hawk, California horned lark, merlin, northwestern San Diego pocket mouse, and American badger.

4.3.8.1. Survey Results

None of these species was observed during surveys conducted in 2011, 2013, or 2014. However, it is possible for them to move onto the site prior to construction.

4.3.8.2. Project Impacts

With the exception of nesting/burrowing birds, should any of these species be present within the grassland or open habitats, they are expected to move out of the area during construction. However, the Proposed Project is expected to temporarily impact these species through the temporary loss of approximately 14.1 ac of potential habitat during construction in addition to approximately 5.2 ac of permanent impacts.

4.3.8.3. Avoidance and Minimization Efforts

The following measures will be incorporated to avoid and minimize impacts to special-status grassland and open habitat animal species:

- In order to avoid impacts to nesting birds, any native or exotic vegetation removal or tree-trimming activities will occur outside of the nesting season (February 15 through August 31). In the event that vegetation clearing is necessary during the nesting season, a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist. This buffer shall be clearly marked in the field by construction personnel under guidance of the biologist, and construction or clearing will not be conducted within this zone until the biologist determines that the young have fledged or the nest is no longer active.

4.3.8.4. Compensatory Mitigation

No compensatory mitigation is warranted for these special-status grassland and open habitat species, since application of the avoidance and minimization efforts is expected to preclude permanent impacts to these species.

4.3.8.5. Cumulative Impacts

Although the grassland and open areas within the BSA are nonnative, the Proposed Project would replace some of this habitat with impervious areas, although this would occur within the median and perimeter of existing freeways. Although other reasonably foreseeable projects may contribute to the loss of grassland and open areas, the Proposed Project's contribution is not considered cumulatively considerable.

4.3.9. Discussion of Special-Status Bridge, Crevice, and Cavity-Dwelling Animal Species

Special-status bridge, crevice, and cavity-dwelling animal species (i.e., bats) known to occur or with the potential to occur in the BSA include pallid bat, Townsend's big-eared bat (State candidate threatened species), western mastiff bat, southwestern yellow bat, long-eared myotis, long-legged myotis, western small-footed myotis, Yuma myotis, pocketed free-tailed bat, and big free-tailed bat.

4.3.9.1. Survey Results

None of these species was observed during various Project related surveys conducted in 2011, 2013, 2014, or 2015; however, bat-specific studies were not conducted but suitable foraging habitat exists within the BSA for special-status bat species. Bat-specific studies have been conducted in the Project Area for other projects as described below.

There are several areas where suitable bat roosting habitat exists within the BSA, including five areas within the BSA that were found to contain suitable bat roosting habitat during a bat habitat assessment conducted in 2006 for the SR-91 Eastbound Lane Addition Project (LSA 2006). Evening acoustic and emergence surveys were subsequently conducted in these areas in 2008 for the same project. In addition, in 2006, 2008 (LSA 2010), and 2013 (LSA 2013) bat surveys were conducted as part of the SR-91 CIP. The following are findings from these projects for areas that overlap with the Project Area.

- The first area at Windy Ridge Wildlife Undercrossing had approximately 30 Brazilian (Mexican) free-tailed bats day roosting in crevices during the 2008 surveys. Brazilian free-tailed bats are not a special-status species, but their presence indicates the area is suitable for roosting bats. Evening emergence surveys would determine the probability of this bridge structure being used by special-interest bat species. Therefore, additional studies may be warranted.

Barring additional studies conducted at Windy Ridge Wildlife Undercrossing, the use of this structure by night-roosting bats is presumed.

- The second area includes at least three separate expansion joints in the overhead connectors between SR-241 and SR-91. Due to the height of these overhead structures, LSA was unable to confirm roosting at these locations without additional nighttime surveys, which have not been conducted.
- The third and fourth areas consist of crevices at box culverts between Gypsum Canyon Creek and Coal Canyon Creek and at the Coal Canyon Creek box culverts beneath SR-91 (PM R017.20 and PM R017.92, respectively). During surveys conducted at these locations in 2006, 2008 and 2013, a myotis species, Yuma myotis (special-status), and/or big brown bats (not special-status) were confirmed to be day roosting in both culverts, while four additional species, including pallid bat, western small-footed myotis, and long-eared myotis (all special-status) and California myotis (not special-status), were detected at the Coal Canyon box culverts that were likely night roosting within that structure.
- The fifth area, Coal Canyon Undercrossing (PM R017.95), does not contain crevices suitable for day-roosting bats but bats were detected night roosting. During the 2008 surveys, Yuma myotis (special-status) were observed and, in 2013, pallid bats, western small-footed myotis, and Yuma myotis (all special-status), and Brazilian free-tailed bats, big brown bats, and California myotis (not special-status) were observed.

4.3.9.2. Project Impacts

Impacts to special-status bat species would include temporary disturbance (such as noise, dust, night lighting, and human encroachment) from construction. In addition, construction could temporarily impede access to roost sites (existing and future) in the crevices of bridges and overhead structures. Because of the avoidance and minimization measures described above, the Proposed Project is not expected to permanently impact any special-status bat species since bridge structures and roosting areas are not being directly impacted (e.g., remove a roosting sites).

4.3.9.3. Avoidance and Minimization Efforts

For work on any of the bridge structures in the BSA, the following measures will be incorporated to avoid and minimize impacts to special-status bat species:

- A qualified bat biologist will survey the Project Area during the maternity roosting period, typically in June, to assess the potential for its use as a maternity roost, since maternity roosts are generally formed in late spring. The qualified bat

biologist shall also perform preconstruction surveys, since bat roosts can change seasonally. The surveys shall include a combination of structure inspection, sampling, exit counts, and acoustic surveys.

- In order to prevent impacts to bridge and crevice-roosting bats, all bridgework shall be scheduled between September 1 and November 30 to avoid hibernating bats and the maternity season. If this is not feasible, temporary bat eviction and exclusion devices will be installed between September 1 and November 20 prior to the initiation of construction activities and under the supervision of a qualified biologist. Exclusion devices must be installed during the fall, or as otherwise directed by a qualified biologist, to avoid trapping flightless young inside during the summer months or hibernating individuals during the winter. Such exclusion efforts must be continued to keep the structures free of bats until the completion of construction on those structures, at which time the devices will be removed to allow the bats to resume roosting in the structure and prevent any permanent loss of bat roosting habitat. All bat exclusion techniques shall be coordinated between the District Biologist and the resource agencies.
- Subject to public health and safety considerations, existing unfilled expansion joints should remain unfilled and unobstructed to prevent permanent loss of existing day- and/or night-roosting habitat. Habitat for bats may be enhanced within the Project Area by leaving newly created expansion joints unrubberized so that they are available to bats for day roosting after construction is complete.
- To avoid or minimize impacts to bats at a night roost, work activities are not to occur within 100 ft of the structure between sunset and sunrise. If construction work must be performed at night in the vicinity of the bridge structure containing a night roost, noise and direct lighting will be directed away from the structure or lighting shall be specifically focused on the portion of the bridge actively under construction to minimize impacts to night-roosting bats.
- Airspace access to and from a bridge structure containing a night roost should not be restricted. Bird exclusion netting must not be used unless made from thick plastic and installed with no exposed overlap joints. Clearing of vegetation in the vicinity of the structure should also be minimized to the greatest extent practicable.

4.3.9.4. Compensatory Mitigation

Due to the measures described above, the Proposed Project is not expected to permanently impact these species; therefore, specific compensatory mitigation is not warranted. In addition, compensatory mitigation described in previous sections for

natural communities and wildlife will benefit special-status bat species by enhancing native vegetation and increasing foraging opportunities.

4.3.9.5. Cumulative Impacts

Although construction could temporarily impede access to potential roost sites in the crevices of the bridge and overhead structures, none of the potential roosting habitat is expected to be permanently altered by the Proposed Project. For this reason, the Proposed Project is not expected to contribute to cumulative impacts to special-status bat species.

Chapter 5. Conclusions and Regulatory Determinations

5.1. Federal Endangered Species Act Consultation Summary

Under provisions of Section 7(a)(2) of the FESA, a federal agency (e.g., FHWA) that permits, licenses, funds, or otherwise authorizes a project activity must consult with the USFWS to ensure that its actions would not jeopardize the continued existence of any listed species or destroy or adversely modify critical habitat. This NES includes details on the Proposed Project's impacts to federally listed plant and wildlife species. Furthermore, avoidance and minimization measures described in this NES will be acknowledged in a Biological Assessment that addresses federally listed species.

Section 7 consultation was conducted with the USFWS for the ETC, which includes the connection with SR-91. The Biological Opinion was issued on July 6, 1994 (No. 1-6-94-F-17; Appendix G) but will be amended, or a new Biological Opinion will be issued, following another Section 7 consultation with the USFWS, which will be initiated by Caltrans to establish mitigation measures consistent with the Construction-Related Minimization Measures from Section 7.5.3 of the Central & Coastal Subregion NCCP/HCP Final EIR/EIS (County 1996b) and amend the mitigation measures in the Biological Opinion from the ETC (USFWS 1994; Appendix G) that covers this phase of project construction. The amendment or new Biological Opinion will also include the additional Project Area at the easternmost end of SR-91, which was not included in the original Biological Opinion. The amendment or a new Biological Opinion will include any applicable mitigation measures for areas within and outside the NCCP/HCP Plan Area. In addition, Section 7 consultation is required to ensure that potential adverse impacts, to designated CAGN critical habitat within the BSA that is outside of the NCCP/HCP Plan Area, are covered and that USFWS verification and acceptance of the mitigation components for impacts to CSS occur during Section 7 consultation.

It is likely that the NCCP/HCP Construction-Related Minimization Measures (County 1996c) will also be applied to the non-NCCP/HCP Plan Areas, but this will be determined during the consultation process. In this way, the avoidance and minimization measures may be consistent throughout the entire BSA.

Furthermore, as described in the NCCP/HCP documents, all development activities addressed by the NCCP/HCP are considered fully mitigated under the NCCP Act, CESA,

and FESA for impacts to habitat occupied by listed and other species identified by the NCCP/HCP documents.

In summary, even though most of the Project Area may have prior take authorization through the Biological Opinion issued in 1994,[1] and parts of the Proposed Project are considered a development activity addressed by the NCCP/HCP, formal Section 7 consultation with the USFWS is required to ensure the Project Area covered by these documents is consistent with the Biological Opinion (to be amended or a new Biological Opinion issued) and the NCCP/HCP, and that take authorization for potential adverse impacts to the CAGN-occupied habitat and designated CAGN critical habitat are covered.

Table 5.1, below, shows the federally listed species and any critical habitat associated with the Proposed Project and the preliminary effects determination. The six species, and their critical habitat (as applicable), which are known from or are in the vicinity of the BSA, will be included in a Biological Assessment as part of the Section 7 consultation (i.e., thread-leaved brodiaea, Braunton's milk-vetch, western yellow-billed cuckoo, southwestern willow flycatcher, least Bell's vireo, and coastal California gnatcatcher) The effects determination for these species will be finalized later in the USFWS' Biological Opinion.

5.2. California Endangered Species Act Consultation Summary

The CESA protects plant and animal species listed as rare, threatened, or endangered. The CDFW authorizes take of endangered, threatened, or candidate species through the provisions of Sections 2081 and 2081.1 of the Fish and Game Code. Authorization from the CDFW for take of any State-listed endangered, threatened, or candidate species is not expected to be necessary.

5.3. Wetlands and Other Waters Coordination Summary

The findings and conclusions regarding the location and extent of wetlands and other waters subject to regulatory jurisdiction (or lack thereof) presented in this NES represent the professional opinion of LSA. These findings and conclusions should be considered preliminary until verified by the USACE, CDFW, and RWQCB.

[1] The Incidental Take statement section in the 1994 Biological Opinion for the ETC is on pages 28–30, with a sentence stating that the Biological Opinion satisfies the Endangered Species Act on the top of page 30 (Appendix G).

Table 5.1: Preliminary Effects Determination for Federally Listed Species

Listed Species and Critical Habitat[1]	Federal Status	Rational	Effects Determination[2, 3]
Listed Species			
Munz's onion *Allium munzii*	Endangered	Limited habitat for this species is present. Surveys have been negative.	No effect
Thread-leaved brodiaea *Brodiaea filifolia*	Threatened	Marginally suitable habitat for this species is present. Surveys have been negative.	NLAA
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	Candidate	Limited habitat for this species is present. Surveys have been negative.	No effect
Slender-horned spineflower *Dodecahema leptoceras*	Endangered	Suitable habitat is absent.	No effect
Santa Ana River woollystar *Eriastrum densifolium ssp. sanctorum*	Endangered	Suitable habitat is absent.	No effect
Gowen cypress *Hesperocyparis goveniana*	Endangered	Suitable habitat is absent.	No effect
Riverside fairy shrimp *Streptocephalus woottoni*	Endangered	Suitable habitat is absent.	No effect
San Diego fairy shrimp *Branchinecta sandiegensis*	Endangered	Suitable habitat is absent.	No effect
Delhi Sands flower-loving fly *Rhaphiomidas terminates abdominalis*	Endangered	Suitable habitat is absent.	No effect
Quino checkerspot butterfly *Euphydryas editha quino*	Endangered	Suitable habitat is absent.	No effect
Santa Ana sucker *Catostomus santaanae*	Threatened	Suitable habitat is absent.	No effect
Arroyo toad *Anaxyrus californicus*	Endangered	Suitable habitat is absent.	No effect
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Threatened	Suitable habitat is absent.	No effect
Least Bell's vireo *Vireo bellii pusillus*	Endangered	Suitable nesting habitat is absent.	NLAA
Southwestern willow flycatcher *Empidonax traillii extimus*	Endangered	Suitable nesting habitat is absent.	NLAA
Critical Habitat			
Braunton's milk-vetch	Final Designated	One critical habitat polygon occurs south side of SR-91 just outside the BSA.	May affect
Coastal California gnatcatcher	Final Designated	Two critical habitat polygons occur in the BSA along the SR-91.	May affect

[1] Includes species from the USFWS list of species that may occur in the Project Area (February 2, 2015).
[2] Expected effects determination with implementation of the NCCP/HCP Construction-Related Minimization Measures and other proposed mitigation measures for both NCCP/HCP Plan Areas and non-NCCP/HCP Plan Areas.
[3] Effects Determinations: No effect; May affect; NLAA: Not likely to adversely affect; LAA: May affect, likely to adversely affect.

BSA = Biological Study Area
NCCP/HCP = Natural Community Conservation Plan/Habitat Conservation Plan
SR-91 = State Route 91
USFWS = United States Fish and Wildlife Service

The following drainage features were identified within the BSA and are described below and shown in Appendix J on Sheets 1 through 9 of the Project Impacts to Biological Resources map.

- **Feature 1.** This feature is a 12 ft wide asphalt swale that carries runoff from both the north- and southbound sides of SR-241 and terminates at a vertical standpipe at the north end. Water flows under SR-91 into the Santa Ana River. The swale feature lacks vegetation.

  This artificially constructed feature does not satisfy the USACE criteria for jurisdictional wetlands and furthermore would not be considered subject to USACE jurisdiction pursuant to Section 404 of the CWA, since this asphalt-lined swale was constructed on dry land for the express purpose of controlling both flooding and erosion and did not displace a previously existing natural drainage course. In addition, the feature would not be subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code since the swale lacks a clearly defined channel bed and banks and does not contain any riparian habitat suitable for supporting fish and wildlife species.

  Permanent impacts are anticipated for this potentially nonjurisdictional nonwetland drainage feature. The preliminary drainage design includes slightly rerouting the potentially nonjurisdictional nonwetland waters area to the west.

- **Feature 2.** This feature is a complex of approximately 4 to 10 ft wide drainage types that merge into a centrally located earthen and riprap-lined 46 ft wide basin. The southern arm of the drainage feature consists of a narrow riprap-lined swale, which sheet flows with intermittent erosional features before it merges with the basin. This same basin receives runoff from an eastern arm, which carries roadway runoff from northbound SR-241 through a culvert that then transports water within a V-ditch. The final two arms that feed into the basin from the north/northeast are eroded earthen channels up to 4 ft wide. The north arm receives roadway runoff from southbound SR-241 through an 18-inch corrugated pipe, while the northeast arm receives sheet flow from the northeast slope. Runoff is believed to leave the basin through a 4 ft diameter culvert, passing northwest and under SR-91, and into the Santa Ana River. Sparse vegetation consists primarily of coyote bush with a handful of mulefat and Mediterranean tamarisk.

  This artificially constructed feature does not satisfy the USACE criteria for jurisdictional wetlands and furthermore would not be considered subject to USACE jurisdiction pursuant to Section 404 of the CWA, since this asphalt-lined swale was

constructed on dry land for the express purpose of controlling both flooding and erosion and did not displace a previously existing natural drainage course. In addition, the feature would not be subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code since the swale lacks a clearly defined channel bed and banks and does not contain any riparian habitat suitable for supporting fish and wildlife species.

Permanent impacts are anticipated for this potentially nonjurisdictional nonwetland drainage feature. Proposed modifications to the potentially nonjurisdictional nonwetland waters areas include replacing the V-ditch with an underground 36-inch reinforced concrete pipe (RCP) and upgrading the existing 4 ft diameter culvert in the basin.

- **Feature 3.** This feature is Gypsum Canyon Creek, which is primarily adjacent to the Project impact area. This creek carries seasonal flows through an earthen channel 19 to 40 ft wide with riprap-lined banks. Sparse vegetation consists of mulefat, thick-leaved yerba santa, and Mediterranean tamarisk. The water enters three concrete box culverts before passing under SR-91 and emerging along the east side of Gypsum Canyon Road, and flowing into the Santa Ana River.

  This feature satisfies the USACE criteria for jurisdictional nonwetlands and, therefore, would be considered subject to USACE jurisdiction pursuant to Section 404 of the CWA, since this is an existing natural drainage course. In addition, the feature would be subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code since the channel has a clearly defined channel bed and banks and contains some sparse riparian habitat suitable for supporting wildlife species, but is generally unlikely to support breeding riparian bird species with threatened or endangered listing status.

  No permanent impacts are anticipated for this potentially jurisdictional nonwetland drainage feature. However, as mapped in Appendix J, Project Impacts to Biological Resources, a small portion of the USACE and CDFW potentially jurisdictional areas are within the temporary construction impacts boundary.

- **Feature 4.** This feature is 5 to 86 ft wide and receives roadway runoff from eastbound SR-91. Water is collected and flows from the BSA down an asphalt swale into earthen lowlands along the south side of SR-91. Dense vegetation consists primarily of laurel sumac, tree tobacco (*Nicotiana glauca*), coyote bush, and California sagebrush. Water outflows under SR-91 and into the Santa Ana River

through a concrete culvert with a headwall near the eastern end of the drainage feature.

This feature may satisfy the USACE criteria for jurisdictional nonwetlands and would be considered subject to USACE jurisdiction pursuant to Section 404 of the CWA, since this area was likely part of an existing natural drainage course. In addition, the feature would be subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code since the channel has a bed and bank and contains some habitat suitable for supporting wildlife species.

Permanent and temporary impacts are expected. As mapped in Appendix J, Project Impacts to Biological Resources, a portion of the USACE and CDFW potentially jurisdictional nonwetland waters areas is within the permanent and temporary construction impacts boundary. Proposed impacts are due to relocation of the western half of the existing asphalt swale, excavation of a new outlet structure along the swale, and joining of the east end of the existing feature with proposed drainage facilities; most of the impacts expected to occur are due to relocation of the flow line in the central portion of the existing drainage.

- **Feature 5.** This feature is a 4 to 30 ft wide earthen drainage with braided drainage channels that is vegetated with coastal sage scrub. Within the BSA, the feature passes across an approximately 20 ft long concrete apron and into a concrete culvert before flowing under SR-91 and into the Santa Ana River.

  This feature may satisfy the USACE criteria for jurisdictional nonwetlands and would be considered subject to USACE jurisdiction pursuant to Section 404 of the CWA, since this area is part of an existing natural drainage course. In addition, the feature may be subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code as a streambed.

  Permanent and temporary impacts are anticipated for this potentially jurisdictional nonwetland drainage feature. Proposed modifications to the potentially jurisdictional nonwetland waters areas include undergrounding the northern portion of the drainage with an RCP.

- **Feature 6.** This feature is an earthen basin up to 35 ft wide that is vegetated with moderately dense mulefat, willow species, and western cottonwood originating in the hills south of the BSA. Within the BSA, the basin feature is fenced along the northern edge to restrict access. Seasonal flows would likely pool in the basin before flowing under SR-91 and into the adjacent Santa Ana River.

This feature may satisfy the USACE criteria for jurisdictional nonwetlands and furthermore would be considered subject to USACE jurisdiction pursuant to Section 404 of the CWA, since this area is part of an existing natural drainage course. In addition, the feature would be subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code since the channel has a bed and bank and contains some riparian habitat suitable for supporting wildlife species, but is unlikely to be large enough to support breeding riparian bird species with threatened or endangered listing status.

No permanent impacts are anticipated for this potentially jurisdictional nonwetland drainage feature. However, as mapped in Appendix J, Project Impacts to Biological Resources, a portion of the USACE and CDFW potentially jurisdictional nonwetland waters areas are within the temporary construction impacts boundary.

- **Feature 7.** This feature is a 4 ft wide concrete V-ditch that is contained entirely within the BSA and carries roadway runoff from SR-91. Runoff collected from the eastern end of the feature passes under SR-91 and into the adjacent Santa Ana River.

  This artificially constructed feature does not satisfy the USACE criteria for jurisdictional wetlands and furthermore would not be considered subject to USACE jurisdiction pursuant to Section 404 of the CWA, since this concrete-lined V-ditch was constructed on dry land for the express purpose of controlling both flooding and erosion and did not displace a previously existing natural drainage course. In addition, the feature would not be subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code since the ditch lacks a clearly defined channel bed and banks and does not contain any riparian habitat suitable for supporting fish and wildlife species.

  No permanent impacts are anticipated for this potentially nonjurisdictional nonwetland drainage feature. However, as mapped in Appendix J, Project Impacts to Biological Resources, the USACE potentially nonjurisdictional nonwetland waters area is within the temporary construction impacts boundary.

- **Feature 8.** This feature is a riprap-lined drainage recently modified as part of the SR-91 CIP. Runoff from the Coal Canyon Road off-ramp flows into this drainage, under SR-91, and into the adjacent Santa Ana River.

  The USACE has determined that this feature is nonjurisdictional. This feature would also likely not be subject to CDFW jurisdiction under Section 1602 of the California Fish and Game Code since the feature lacks a clearly defined channel bed and banks

and does not contain any riparian habitat suitable for supporting fish and wildlife species.

No permanent impacts are anticipated for this nonjurisdictional drainage feature. However, as mapped in Appendix J, Project Impacts to Biological Resources, the USACE approved nonjurisdictional nonwetland waters area is within the temporary construction impacts boundary.

- **Feature 9.** This feature is entirely outside of the BSA and is part of Coal Canyon Creek, which originates in the hills south of the BSA. Part of the drainage area consists of an earthen debris basin vegetated with mulefat, western cottonwood, thick-leaved yerba santa, and CSS species. Seasonal flows pass through box culverts before passing under SR-91 and into the adjacent Santa Ana River.

  No impacts are anticipated for this potentially jurisdictional nonwetland area since it is outside of the Project Area.

5.3.1. USACE Jurisdiction

As described in the Jurisdictional Delineation Report (Appendix F), there are several drainages in the BSA that connect directly or indirectly to the Santa Ana River. The Santa Ana River has a relatively permanent (at least 3-month) flow during the year that eventually flows into the Pacific Ocean, a traditional navigable water (TNW). These drainages that appear natural or appear to function in a capacity of more than just a storm drain are believed to be potentially jurisdictional. However, because these drainages do not carry a relatively permanent flow, a significant nexus determination by the USACE will be required. All drainage areas failed to meet the USACE wetland criteria.

In contrast, drainages that do not carry a relatively permanent flow, are excavated wholly in uplands, and capture only upland flows (e.g., road runoff) are typically not regulated by the USACE. However, the USACE does reserve the right to regulate these waters on a case-by-case basis. Refer to Figure 2 in Appendix A of the Jurisdictional Delineation Report (Appendix F) for the extent of USACE jurisdiction.

Table 5.2, below, shows the direct impacts of the Proposed Project to likely USACE jurisdictional (measurements shown) and nonjurisdictional (measurements not shown) areas. All permanent and/or temporary impacts are expected to potential non-wetland USACE jurisdictional areas. Permanent impacts within the Caltrans right-of-way are expected to occur at Features 4 and 5; while temporary construction impacts are expected to occur at Features 3, 4, 5, and 6. Furthermore, likely USACE nonjurisdictional

Table 5.2: Potential Impacts to Likely USACE Jurisdictional Areas by Feature Number

Drainage Feature Number	Drainage Feature Description	Total Likely USACE Jurisdiction	Potential Jurisdictional Non-Wetland Impacts[1]			
			Within the Caltrans Right-of-Way		Outside the Caltrans Right-of-Way	
			Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
1	Concrete swale	None[2]	—	—	N/A	N/A
2	Riprap ditch, concrete V-ditch, riprap basin, and earthen channel	None[2]	—	—	N/A	N/A
3	Gypsum Canyon: earthen channel with concrete sides	0.20	<0.01	0.00	N/A	N/A
4	Asphalt swale and vegetated earthen channel	0.84	0.43	0.41	N/A	N/A
5	Culvert with concrete apron on earthen channel	0.07	0.00	0.04	<0.01	0.02
6	Earthen channel and basin	0.09	0.09	0.00	0.00	0.00
7	Concrete V-ditch	None[2]	—	—	N/A	N/A
8	Riprap ditch	None[2]	—	—	N/A	N/A
9[3]	Earthen channel with riprap sides and wooden dam	N/A[2]	—	—	N/A	N/A
Total		**1.20**	**<0.53**	**0.45**	**0.01**	**0.02**

[1] Impacts in acres.
[2] These features are likely nonjurisdictional since they are concrete channels or v-ditches or swales for carrying freeway runoff. Therefore, specific impact acres/distances were not shown (—) for these features. However, Features 3, 4, 5, 6, and 9 are potentially jurisdictional, but Feature 9 is outside of/adjacent to the Biological Study Area.
[3] Adjacent to and outside of the Biological Study Area.

Caltrans = California Department of Transportation
CIP = SR-91 Corridor Improvement Project
N/A = not applicable
USACE = United States Army Corps of Engineers

permanent impacts are expected to occur at Features 1 and 2 (approximately 500 total linear feet). Temporary impacts are expected to occur at Features 1, 2, 7, and 8 (approximately 2,282 total linear feet). The Proposed Project would impact waters of the United States as a result of relocating, upgrading, constructing, or otherwise improving drainages and culverts.

In addition to the direct impacts to potential jurisdictional waters listed in Table 5.2, there is the potential for associated indirect impacts to functions and values to the adjacent portions of these features, as well as downstream areas. However, the current functions of these features are quite low, as described in the Jurisdictional Delineation Report (Appendix F), and the impacts are minimal. While only direct impacts are specifically regulated by the USACE, the indirect impacts of any fill in jurisdictional features will be

considered by the USACE pursuant to their standard procedure for determining mitigation ratios. Other indirect impacts to jurisdictional waters from construction activities in adjacent upland areas are expected to be minimal, based on the erosion control measures required during construction.

In addition to the measure described for the CDFW and the RWQCB sections below, implementing any measures in the USACE permit, including determination of a mitigation ratio, will further avoid and minimize impacts to federal jurisdictional areas from the Proposed Project:

- Prior to initiation of construction, a permit will be obtained through the USACE pursuant to Section 404 of the CWA. As part of coordination with the USACE, a Nationwide Permit will be pursued, if appropriate.
- **ETC Final EIR and Final EIS Measure B-13:** *In conjunction with final design, the TCA shall, to the extent feasible, construct streambank reinforcements of ungrouted riprap gabions or other appropriate material at the shallowest possible slope (2:1 or less), allowing for the replacement of soil and the subsequent revegetation of these areas with riparian plan species.*

5.3.2. CDFW Jurisdiction

All of the areas satisfying the USACE jurisdictional criteria for waters of the United States and adjacent wetlands, as described above, are also subject to CDFW jurisdiction pursuant to Section 1602 of the California Fish and Game Code. In addition, streambed banks and adjacent riparian areas extending beyond the limits of the USACE jurisdiction are considered subject to CDFW jurisdiction. Drainages believed not to be jurisdictional by the USACE and that lack riparian vegetation, are concrete lined, show an absence of any aquatic or terrestrial wildlife, or do not function as a river, lake, or stream are not likely to be considered jurisdictional by the CDFW. Furthermore, all areas failed to meet the USACE wetland criteria.

Table 5.3 shows the amount the Proposed Project is expected to impact likely CDFW jurisdictional areas. Permanent impacts are expected to occur at Features 4 and 5. Temporary construction impacts are expected to occur at Features 3, 4, 5, and 6. The Proposed Project would impact waters of the State as a result of relocating, upgrading, constructing, or otherwise improving drainages and culverts. Refer to Figure 2 in Appendix A of the Jurisdictional Delineation Report (Appendix F) for the extent of CDFW jurisdiction.

Table 5.3: Potential Impacts to Likely CDFW Jurisdictional Areas by Feature Number

Drainage Feature Number	Drainage Feature Description	Total Likely CDFW Jurisdiction	Potential Jurisdictional Impacts[1]			
			Within Caltrans Right-of-Way		Outside Caltrans Right-of-Way	
			Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts
1	Concrete swale	None[2]	—	—	N/A	N/A
2	Riprap ditch, concrete V-ditch, riprap basin, and earthen channel	None[2]	—	—	N/A	N/A
3	Gypsum Canyon: earthen channel with concrete sides	0.51	0.05	0.00	N/A	N/A
4	Asphalt swale and earthen channel	1.46	0.84	0.62	N/A	N/A
5	Culvert with concrete apron on earthen channel	0.28	0.00	0.04	0.03	0.20
6	Earthen channel and basin	0.12	0.12	0.00	N/A	N/A
7	Concrete V-ditch	None[2]	—	—	N/A	N/A
8	Riprap ditch	None[2]	—	—	N/A	N/A
9[3]	Earthen channel with riprap sides and wooden dam	N/A[2]	—	—	N/A	N/A
Total		**2.37**	**1.01**	**0.66**	**0.03**	**0.20**

[1] Impacts in acres.
[2] These features are likely nonjurisdictional since they are concrete channels or v-ditches or swales for carrying freeway runoff. Therefore, specific impact acres/distances were not shown (—) for these features. However, Features 3, 4, 5, 6, and 9 are potentially jurisdictional, but Feature 9 is outside of/adjacent to the Biological Study Area and is therefore not shown.
[3] Adjacent to and outside of the Biological Study Area.
CDFW = California Department of Fish and Wildlife
CIP = SR-91 Corridor Improvement Project
N/A = not applicable

As with the impacts to USACE jurisdiction, indirect impacts are expected to be minimal, and will be considered by CDFW in developing any mitigation requirements.

In addition to the measure described for the USACE above and the RWQCB below, implementing any measures in the CDFW agreement will further avoid and minimize impacts to CDFW jurisdictional areas from the Project:

- Prior to initiation of construction, a Streambed Alternation Agreement with the CDFW will be obtained and any specifications in the SAA will be implemented.

5.3.3. RWQCB Jurisdiction

Because there is no public guidance on determining RWQCB jurisdictional areas, jurisdiction was determined based on the federal definition of wetlands (three parameters) and other waters of the United States (i.e., ordinary high water mark [OHWM]) as recommended by the State Water Resources Control Board September 2004 Workplan.

Even for drainage areas not believed to be jurisdictional by the USACE, the RWQCB often asserts jurisdiction of such areas under the Porter-Cologne Act, and any such areas would be consequently included in the total RWQCB jurisdiction. Similar to the USACE, the RWQCB may assert jurisdiction over the roadside drainage ditches on a case-by-case basis. Table 5.2 lists the potential jurisdictional areas of the USACE, which is also the amount that the Proposed Project would impact potential RWQCB jurisdictional areas (permanent impacts of 0.47 ac and temporary impacts of 0.54 ac).

In addition to the measures listed above, implementing any measures in the RWQCB certification below will further avoid and minimize impacts to RWQCB jurisdictional waters:

- Prior to initiation of construction, a Section 401 Water Quality Certification from the RWQCB will be obtained and any specifications in the Certification will be implemented.

5.4. Western Riverside County Multiple Species Habitat Conservation Plan

The Riverside County portion of the Project Area is located within the WR-MSHCP Conservation Area; however, this portion of SR-91 is planned for advance signage only and is not located within the WR-MSHCP Conservation Area that is vegetated as it consists only of the paved roadway and shoulder. Placement of the advance signage area along SR-91 is shown in Appendix A (Sheets 9–13).

The SR-91 advance signage area in the context of the WR-MSHCP is a Covered Activity under Section 7.3.4, Existing Roads Within the Criteria Area – Covered Road Maintenance Activities Within the Criteria Area: Publicly Maintained Roads; therefore, the objectives, policies, procedures, and guidelines from Section 7.5.3: Construction Guidelines as well as BMPs outlined in Appendix C (WR-MSHCP Volume 1) will minimize and avoid impacts to sensitive species and habitats occurring adjacent to the existing roadway in the Riverside County portion of the Project Area.

Applicable guidelines from Section 7.5.3: Construction Guidelines include the following:

- *When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to coastal sage scrub or chaparral vegetation, appropriate fire-fighting equipment (e.g., extinguishers, shovels, and water tankers) shall be available on the site during all phases of project construction to help*

minimize the chance of human-caused wildfires. Shields, protective mats, and/or additional fire preventative methods shall be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires shall advise contractors regarding fire risk from all construction-related activities.

- *Waste, dirt, rubble, or trash shall not be deposited in the Conservation Area or on native habitat.*

Applicable practices from the 15 practices listed in Appendix C: Standard Best Management Practices of the WR-MSHCP include the following:

- *The footprint of disturbance shall be minimized to the maximum extent feasible. Access to sites shall be via pre-existing access routes to the greatest extent possible.*
- *To avoid attracting predators of the species of concern, the project site shall be kept as clean of debris as possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site(s).*
- *Construction employees shall strictly limit their activities, vehicles, equipment, and construction materials to the footprint and designated staging areas and routes of travel. The construction area(s) shall be the minimal area necessary to complete the project and shall be specified in the construction plans. Construction limits will be fenced with orange snow screen. Exclusion fencing should be maintained until the completion of all construction activities. Employees shall be instructed that their activities are restricted to the construction areas.*
- *The Permittee shall have the right to access and inspect any sites of approved projects including any restoration/enhancement area for compliance with project approval conditions including these BMPs.*

5.5. Wildlife Movement

Wildlife movement and habitat fragmentation are greatly impacted by roads. Within the Proposed Project area, wildlife movement areas include Gypsum Canyon, Coal Canyon, and B Canyon, which are wildlife linkages (CDFW 2015), and Windy Ridge Wildlife Undercrossing is a wildlife corridor.

Gypsum Canyon and Coal Canyon are in the County of Orange and pass under SR-91 (Sheets 6 and 9 of Appendix A, respectively), while B Canyon is in Riverside County within the Proposed Project's Advance Signage area (Sheet 11 of Appendix A). The wildlife linkages will not be directly impacted by the Proposed Project since work in these areas is within the median or along the paved roadways.

Several wildlife undercrossings were constructed into SR-241 to allow for wildlife movement, including Windy Ridge Wildlife Undercrossing (Sheet 1 of Appendix A) in the southern part of the BSA. The design of the Windy Ridge Wildlife Undercrossing bridge structure allows for widening in the median of SR-241 without substantially impacting the openness of the crossing. The openness of a crossing is extremely important to assess the potential and size of wildlife likely to move through a given structure. Large mammals generally stand at least 1.5 ft at the shoulders, have a length of at least 2 ft (not including tail), and include the mountain lion, mule deer, coyote, and bobcat. A crossing must be large enough to encourage these large stature creatures to enter an area in which they might otherwise feel vulnerable.

The Proposed Project would widen the southbound bridge structure at the Windy Ridge Wildlife Undercrossing along SR-241. The bridge widening would decrease the openness factor (height x width/length) to 9.3 meters (m) (30.5 ft) (from 12.1 m to 9.3 m [39.6 ft to 30.5 ft]); however, the openness factor is not reduced enough to discourage wildlife use or have a long-term effect on larger wildlife utilization of the crossing; therefore, no permanent impacts are expected.[1] To limit temporary impacts such as temporary avoidance by wildlife, construction duration at this location should be minimized as much as is feasible and should occur only during daylight hours, subject to public health and safety considerations. Furthermore, any indirect or direct impacts to adjacent habitat associated with construction equipment or temporary structures will be mitigated for upon completion of the Project (e.g., habitat restoration). Therefore, the following avoidance and minimization measures will be incorporated:

- If necessary for construction access, the existing wildlife fencing will be removed only after installation of temporary fencing to protect against wildlife-vehicle incidents during construction. Temporary fencing will be the same or of greater height than the existing wildlife fencing and must be maintained and functional throughout project construction. After construction, any temporary fencing will be replaced with new permanent fencing consistent with the existing wildlife fencing.
- Following Proposed Project construction, all disturbed habitat adjacent to Windy Ridge Wildlife Undercrossing will be restored with native vegetation to the extent feasible.
- Construction equipment maintenance, lighting, and staging must be in designated areas, away from Windy Ridge Wildlife Undercrossing.

[1] The openness factor recommended for mule deer is greater than 0.6 meter (m) (Bellis 2008) and the Proposed Project openness factor is 9.3 m.

- To limit temporary impacts such as temporary avoidance by wildlife, construction duration at this location should be minimized as much as is feasible and should occur only during daylight hours, subject to public health and safety considerations. However, if work must be done at night, noise and direct lighting will be directed away from Windy Ridge Wildlife Undercrossing.
- Windy Ridge Wildlife Undercrossing will be kept clear of all equipment or structures that could potentially serve as barriers to wildlife passage.
- Within Windy Ridge Wildlife Undercrossing, structures required for bridgework would be erected in a manner so as not to block the main underpass. Scaffolding and false work would be restricted to the sides of the underpass to maintain the functionality of the crossing.

5.6. Invasive Species

Exotic plant species exist within the nonnative plant communities throughout the BSA, within patches of native plant communities, and in areas that have been disturbed by human uses. Exotic species are typically more numerous adjacent to roads and developed areas and frequently border the ornamental landscape. In the past, these areas likely supported grasslands, oak woodland, CSS, and riparian habitats. Consequently, scattered plant species associated with these plant communities are often found in these areas.

A total of 29 exotic plants occurring on the California Invasive Plant Council's (Cal-IPC) California Invasive Plant Inventory were identified. Of these species, there are 4 with an overall high rating, 12 with a moderate rating, and 13 with a limited rating. Invasive species that have severe ecological impacts are given a high rating. Species with a high rating identified within the BSA are: fennel (*Foeniculum vulgare*), broad-leaved peppergrass (*Lepidium latifolium*), Mediterranean tamarisk, and foxtail chess. These observations should not be considered all-inclusive. Permanent impacts may include conversion of native habitat to a nonnative vegetation community, community with a high percentage of nonnatives, or nonnative patches. Temporary impacts may include habitat areas briefly invaded by exotic plants, which later reverts to native habitat once shrubs mature.

In compliance with EO 13112, invasive species will be removed from the Project work area and controlled during construction. During the Final Design process, the Project Engineer will direct a qualified landscape architect to develop a Weed Abatement Program/Non-Standard Special Provisions (Program/NSSP) for inclusion in the Project specifications. That Program/NSSP will be developed in compliance with EO 13112 to

minimize the potential for intrusion or export of invasive plant species to and from the BSA during Project construction. At a minimum, the following will be included in the Weed Abatement Program/NSSP and implemented prior to and during construction to address potential impacts associated with invasive species. The Weed Abatement Program/NSSP will define the specific details, frequency, and, if applicable, performance standards for the following individual activities and requirements:

- Inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one Project location to another.
- Limit soil and vegetation disturbance to those areas specifically required for the Project construction.
- The Resident Engineer will require the design/build contractor to obtain soil, gravel, and rock from weed-free sources.
- The Resident Engineer will require the design/build contractor to use only certified weed-free straw, mulch, and/or fiber rolls for erosion control during construction.
- Prior to the completion of construction, revegetate impacted areas adjacent to native vegetation with plant species that are native to the vicinity and approved by the Caltrans District 12 Biologists.
- Not use any species listed in the Cal-IPC California Invasive Plant Inventory with a high or moderate rating in revegetation.
- After construction, ensure that erosion control and revegetation sites are monitored until achievement of the Project-specific performance standards defined in the Program/NSSP or a period of 1 year, whichever is greater, after installation to detect nonnative species prior to the establishment of the native vegetation.
- Implement eradication procedures (e.g., spraying and/or hand weeding) should an infestation occur. The use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the Caltrans District 12 Biologists during and after Project construction.
- During construction, reduce indirect impacts of exotic plant infestations and litter by roadside maintenance at least once daily during construction to remove litter and weeds from the right-of-way.

5.7. Migratory Bird Treaty Act

Native bird species and their nests are protected under the MBTA (16 USC 703-712). The MBTA states that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. The MBTA prohibits the take, possession, import, export,

transport, selling, purchase, barter, or offering for sale, purchase, or barter, any migratory bird, its eggs, parts, and nests, except as authorized under a valid permit.

EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) directs federal agencies "taking actions that have, or are likely to have, a measurable negative impact on migratory bird populations to develop and implement a Memorandum of Understanding (MOU) with the USFWS that promotes the conservation of migratory bird populations."

Permanent impacts may include loss of foraging and nesting habitat due to permanent loss of vegetation or changes in habitat type, while temporary impacts may include areas that are revegetated following construction. In accordance with EO 13186 and the provisions of the MBTA, the following measures will be incorporated:

- All vegetation clearing and tree removal activities will be conducted outside of the bird nesting season (generally February 15 through August 31) to the extent practicable. In the event that vegetation clearing is necessary during the nesting season, a qualified biologist will conduct a preconstruction survey to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist. This buffer will be clearly marked in the field, and construction or clearing will not be conducted within this zone until the biologist determines that the young have fledged or the nest is no longer active.
- In accordance with the CDFG survey guidelines for burrowing owl, a take avoidance survey shall be conducted no less than 14 days prior to initiating ground disturbance activities and, if time lapses between project activities, a final survey may be conducted within 24 hours prior to ground disturbance (CDFG 2012).

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